

L Number	Hits	Search Text	DB	Time stamp
2	2	"11008820"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/13 09:39
4	1325	358/518.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/13 09:46
5	396	358/518.ccls. and (face or head or body or flesh or skin) same (tone or pigmentation or color)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/13 10:07
6	337	348/223.1.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/13 10:07
7	68	348/223.1.ccls. and (skin or face or head or flesh) same (color or tone or pigmentation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/13 10:08
-	8943	(camera or (imag\$4 adj2 (device or unit or system)) and (correct\$4 or balanc\$4 or adjust\$4) same (tone or pigment\$6) with face) and identif\$4 with camera	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 09:17
-	318	(camera or (imag\$4 adj2 (device or unit or system)) and (correct\$4 or balanc\$4 or adjust\$4) same (tone or pigment\$6) with face) and identif\$4 with camera and cloth\$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:11
-	318	(camera or (imag\$4 adj2 (device or unit or system)) same (correct\$4 or balanc\$4 or adjust\$4) same (tone or pigment\$6) with face) and identif\$4 with camera and cloth\$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:12
-	1	6-67301	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:14
-	21	"667301"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:14
-	18	camera same identif\$6 same (correct\$4 or balanc\$4 or adjust\$4 or enhanc\$6) same (flesh or tone or pigment\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:27
-	5	"6396599"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:27

-	3	"6396599" and (correct\$4 or adjust\$4 or balance\$4 or enhance\$6) and (identify\$6 or id)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:30
-	1630	camera same (correct\$4 or adjust\$4 or balance\$4 or enhance\$6) same (identify\$6 or id)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:30
-	141	camera same (correct\$4 or adjust\$4 or balance\$4 or enhance\$6) same (id)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:33
-	1	7-154736	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:10
-	0	"7154736"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:35
-	29	"154736"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:36
-	193	camera and identification with (photo or image) and (correct\$4 or adjust\$4 or enhance\$6) with (tone or flesh or pigment\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:33
-	398	camera and id with (photo or image) and (correct\$4 or adjust\$4 or enhance\$6) with (tone or flesh or pigment\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 13:58
-	192	camera with (photo or image) and (correct\$4 or adjust\$4 or enhance\$6) with (tone or flesh or pigment\$6) same size	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:06
-	503	camera with (photo or image) and (correct\$4 or adjust\$4 or enhance\$6) with ((tone or flesh or pigment\$6) and size)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:36
-	408	camera with (photo or image) and (correct\$4 or adjust\$4 or enhance\$6) with ((tone or flesh or pigment\$6) and size) not secreted	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:19
-	28	camera with (photo or image) and (correct\$4 or adjust\$4 or enhance\$6) with ((tone or flesh or pigment\$6) and resize\$4) not secreted	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:23

-	45	identif\$6 same (passport or license or visa or business) and camera and (correct\$4 or adjust\$4 or balanc\$4) with (fish or tone or pigmentation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:27
-	45	identif\$6 same (passport or license or visa or business) and camera and (correct\$4 or adjust\$4 or balanc\$4) with (flesh or tone or pigmentation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:27
-	1704	id with camera	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:35
-	198	id with camera and face with image	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 14:45
-	30	id with camera and face with image and (adjust\$4 or chang\$4) with (resiz\$4 or siz\$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:02
-	3	identification with photo with (camera or system) and (pigmentation or tone or flesh) with (correct\$4 or adjust\$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:04
-	62	identification with (photo or image) with (camera or system) and (pigmentation or tone or flesh) with (correct\$4 or adjust\$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:14
-	14	"5488429"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:16
-	28	"5726737"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:17
-	16	camera and identification with (photo or image) and (correct\$4 or adjust\$4 or enhanc\$6) with (tone or flesh or pigment\$6) and cloth\$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:34
-	61	camera with (photo or image) and (correct\$4 or adjust\$4 or enhanc\$6) with ((tone or flesh or pigment\$6) and size) and cloth\$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 15:59
-	350	382/118.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 16:19

-	218	382/118.ccls. and (identification or id)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 16:59
-	58	382/118.ccls. and (identification or id) with (card or badge or passport or visa or license)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 17:00
-	4	"6608914"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/10 17:00
-	408	348/584.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 09:47
-	1	348/584.ccls. and (id or odenrification) with (card or badge)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 09:51
-	128	348/580.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 09:52
-	273	348/581.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 10:00
-	422	camera and id with (card or badge) with image	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 10:31
-	8	"4540259"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 10:29
-	742	camera and (id or bank or cash or credit or phone or membership or passport or visa) adj (card or badge) with image	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 10:37
-	139	camera and (id or bank or cash or credit or phone or membership or passport or visa) adj (card or badge) with image same face	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 11:01
-	1	"6412692".PN.	USPAT	2004/05/11 11:00
-	1	"6335688".PN.	USPAT	2004/05/11 11:01
-	1	"6325285".PN.	USPAT	2004/05/11 11:01
-	1	"6219439".PN.	USPAT	2004/05/11 11:01
-	1	"6158658".PN.	USPAT	2004/05/11 11:01
-	1	"6137895".PN.	USPAT	2004/05/11 11:01
-	1	"6119096".PN.	USPAT	2004/05/11 11:01

-	0	348/655.ccls. and (id or bank or cash or credit or phone or membership or passport or visa) adj (card or badge) with image same face	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 11:02
-	0	348/655.ccls. and (id or bank or cash or credit or phone or membership or passport or visa) adj (card or badge)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 11:02
-	0	348/655.ccls. and (id or bank or cash or credit or phone or membership or passport or visa) with (card or badge)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 11:02
-	4	348/655.ccls. and face same (skin or flesh or pigment\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 12:38
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-	1	"5550928".PN.	USPAT	2004/05/11 11:05
-	57	"5528339"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 11:09
-	185	348/655.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 11:24
-	707	camera and cloth\$4 same display	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 12:46
-	274	348/61.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 13:28
-	50	348/585.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 13:31
-	222	348/586.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 13:31
-	52	348/586.ccls. and (face or skin or flesh)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 13:43
-	555	348/222.1.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 13:43

-	91	348/222.1.ccls. and (face or skin or flesh)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 13:45
-	766	382/115.ccls. or 382/118.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 14:30
-	14218	skin with (pigmentation or color or tone)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 14:30
-	17135	skin with (pigmentation or color or tone)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 14:31
-	109	(382/115.ccls. or 382/118.ccls.) and (skin with (pigmentation or color or tone))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 14:37
-	1	"6061153".PN.	USPAT	2004/05/11 14:46
-	1	"5900860".PN.	USPAT	2004/05/11 14:46
-	1	"5874988".PN.	USPAT	2004/05/11 14:46
-	1	"5210600".PN.	USPAT	2004/05/11 14:46
-	1	"5142642".PN.	USPAT	2004/05/11 14:47
-	1	"5128708".PN.	USPAT	2004/05/11 14:47
-	1	"6061153".PN.	USPAT	2004/05/11 14:47
-	18	photo with (id or identification or membership or cash or bank or credit or phone or visa or passport) and (skin or flesh or pigmentation) with (correct\$4 or adjust\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 15:15
-	180	(photo or image) with (id or identification or membership or cash or bank or credit or phone or visa or passport) and (skin or flesh or pigmentation) with (correct\$4 or adjust\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 15:59
-	10	(photo or image) with (id or identification or membership or cash or bank or credit or phone or visa or passport) same card and (skin or flesh or pigmentation) with (correct\$4 or adjust\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:25
-	180	(photo or image) with (id or identification or membership or cash or bank or credit or phone or visa or passport) and (skin or flesh or pigmentation) with (correct\$4 or adjust\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:25
-	386	(photo or image) with (id or identification or membership or cash or bank or credit or phone or visa or passport) and (skin or flesh or pigmentation) same (correct\$4 or adjust\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:29
-	13	"634693"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:38

-	32	"0058747"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:40
-	681	toshiba and id same image	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:40
-	30	toshiba and id same image and color with (adjust\$5 or corret\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:42
-	6	toshiba and id with (visa or card or passport) same image and color with (adjust\$5 or corret\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 16:43
-	8	toshiba and (id or identification) with (visa or card or passport) same image and color with (adjust\$5 or corret\$4 or enhanc\$6)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 17:38
-	20	(camera or imag\$4) and badge with (image or photo) and (flesh or skin or face) with (tone or color or pigmentation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 17:41
-	310	(camera or imag\$4) and (badge or id) with (image or photo) and (flesh or skin or face) with (tone or color or pigmentation)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/11 17:42
-	21764	(id or identification) adj3 card	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 09:17
-	2748	((id or identification) adj3 card) and (camera or (imaging with (device or system)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 09:18
-	1270	((((id or identification) adj3 card) and (camera or (imaging with (device or system)))) and (face)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 09:19
-	13	((((id or identification) adj3 card) and (camera or (imaging with (device or system)))) and (face) same (color or tone or pigmantation) same (flesh or skin)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 10:06
-	13	"5296945"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 10:06

-	1000	(camera or imaging adj (device or system)) with ((resiz\$4 or siz\$4) and background)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 14:40
-	19	(camera or imaging adj (device or system)) with ((resiz\$4 or siz\$4) and background) and (id or identification) with (card)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 14:44
-	20	(camera or imaging adj (device or system)) with ((resiz\$4 or siz\$4) and background) and (id or identification) with (card or badge)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 14:57
-	5	"6396599"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 14:55
-	2485	(camera or imaging adj (device or system)) and ((resiz\$4 or siz\$4) and background) and (id or identification) with (card or badge)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 15:01
-	1	"5410642".PN.	USPAT	2004/05/12 15:43
-	1	"5321751".PN.	USPAT	2004/05/12 15:44
-	1	"5259025".PN.	USPAT	2004/05/12 15:44
-	1	"5193855".PN.	USPAT	2004/05/12 15:44
-	1	"5193855".PN.	USPAT	2004/05/12 15:44
-	1	"5151684".PN.	USPAT	2004/05/12 15:44
-	1	"5109281".PN.	USPAT	2004/05/12 15:44
-	5113	(camera or imaging adj (device or system)) and (chang\$4 or adjust\$4) with background	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 16:16
-	55	(camera or imaging adj (device or system)) and (chang\$4 or adjust\$4) with background and (resiz\$4 with (photo or picture\$1 or image\$1))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 16:18
-	63	(id or identification) adj3 (card or badge) and (camera or (imaging adj (device or system))) and (chang\$4 or adjust\$4 or control\$5 or resizing\$4 or automatic\$6) with (siz\$4 and background)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 16:24
-	30	(id or identification) adj3 (card or badge) and (camera or (imaging adj (device or system))) and (chang\$4 or adjust\$4 or control\$5 or resizing\$4 or automatic\$6) with (siz\$4 and background) and @ad<19991224	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/13 09:44
-	14	"118820"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/12 18:27

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : TOSHIBA CORP

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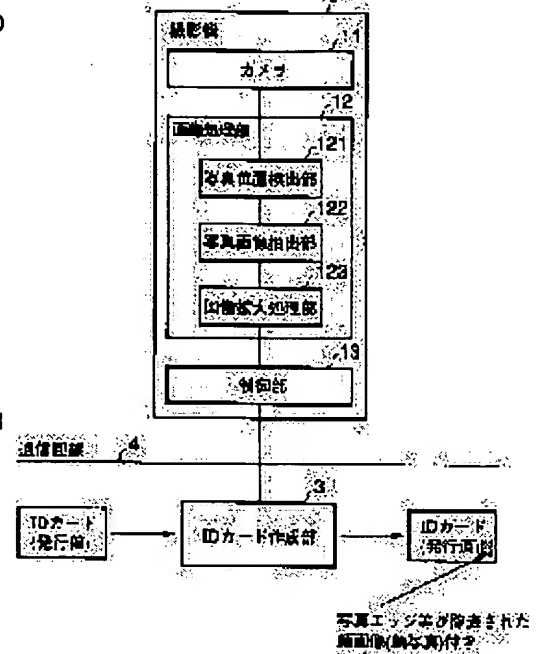
(72)Inventor : TAZAKI MICHIHIDE

(54) ID CARD PREPARING DEVICE, ID CARD PREPARAING METHOD, AND ID CARD

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an ID card preparing device which can prepare an ID card wherein a photograph image being suitable for ID card is attached by absorbing a slip of the affixing location of a verification photograph which is affixed to an application form.

SOLUTION: This ID card preparing device is equipped with an image reading means 11, a photograph location detecting means 121, a photograph image extracting means 122 and an ID card preparing means 3. The image reading means 11 reads the image of a region which is set to a size including a photograph of a specified size to be affixed to the specified application form or the like. The photograph location detecting means 121 detects a photograph edge from the image data obtained by the reading of the image. The photograph image extracting means 122 extracts a photograph image in the region formed by the detected photograph edge, and also, in the region of a size which does not include the photograph edge. The ID card preparing means 3 prepares the ID card to which the extracted photograph image is attached.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision
of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the method which reads an image in the field of size [a little] smaller than the photograph size of the magnitude of the above-mentioned convention, since the person on a photograph (face) is made not to go out, reading size cannot be made extremely small. In other words, there was a problem that it could respond only to the photograph stuck by shifting slightly from the predetermined photograph attachment location. Moreover, the fake alteration preventive measures of an ID card are also important in recent years.

[0005] The purpose of this invention is to accomplish in view of a situation which was described above, and offer the following ID card listing device, the ID card creation approach, and an ID card.

[0006] (1) The ID card listing device which can create the ID card with which the gap of the attachment location of the certification photograph stuck on an application and the size error of a certification photograph were absorbed, and the photograph suitable as an object for ID cards was attached, and the ID card creation approach.

[0007] (2) The ID card listing device which can create the ID card excellent in fake alteration prevention, and the ID card creation approach.

[0008] (3) The ID card with which the size error of a gap of the attachment location of the certification photograph stuck on an application or a certification photograph was absorbed, and the photograph suitable as an object for ID cards was attached.

[0009] (4) The ID card excellent in fake alteration prevention.

TECHNICAL FIELD

[Field of the Invention] This invention relates to the ID card with which the portrait image was attached. Moreover, it is related with the ID card listing device which creates this ID card, and the ID card creation approach.

PRIOR ART

[Description of the Prior Art] An ID card listing device reads the photograph stuck on the predetermined photograph attachment location on an ID card application, records individual humanity news, such as a photograph obtained by this reading, a name, the address, and a birth date, on an ID card (printing), and creates an ID card.

[0003] However, the photograph stuck on an application does not restrict being stuck on a predetermined photograph attachment location, but shifts from a predetermined attachment location to accuracy, and may always be stuck on it. In such a situation, when the image of a predetermined photograph attachment location is read as it is (i.e., if an image is read according to regular photograph size and a photograph is attached to an ID card based on it (printing etc.)), a photograph edge may appear in the printed image, or a ruled line, an alphabetic character, etc. which are printed by the application may appear. So, in the conventional ID card listing device, by reading an image in the field of size [a little] smaller than the photograph size of regular magnitude, it is devised so that it may prevent above-mentioned un-arranging.

EFFECT OF THE INVENTION

[Effect of the Invention] According to this invention, the following ID card listing device, the ID card creation approach, and an ID card can be offered.

[0039] (1) The ID card listing device which can create the ID card with which the size error of a gap of the attachment location of the certification photograph stuck on an application or a certification photograph was absorbed, and the photograph suitable as an object for ID cards was attached, and the ID card creation approach.

[0040] (2) The ID card listing device which can create the ID card excellent in fake alteration prevention, and the ID card creation approach.

[0041] (3) The ID card with which the size error of a gap of the attachment location of the certification photograph stuck on an application or a certification photograph was absorbed, and the photograph suitable as an object for ID cards was attached.

[0042] (4) The ID card excellent in fake alteration prevention.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the outline configuration of the ID card listing device concerning the gestalt 1 of implementation of this invention.

[Drawing 2] It is the flow chart which shows the processing which creates an ID card by the ID card listing device concerning the gestalt 1 of implementation of this invention.

[Drawing 3] It is the block diagram showing the outline configuration of the ID card listing device concerning the gestalt 2 of implementation of this invention.

[Drawing 4] It is the flow chart which shows the processing which creates an ID card by the ID card listing device concerning the gestalt 2 of implementation of this invention.

[Drawing 5] It is drawing for explaining the image reading size of the camera of an ID card listing device shown in drawing 1 and drawing 3 .

[Drawing 6] It is drawing for explaining the background added by the ID card listing device shown in drawing 3 for fake alteration prevention.

[Drawing 7] It is drawing for explaining the trouble of the conventional ID card listing device.

[Description of Notations]

1 -- Motion picture camera

11 -- Camera

12 -- Image-processing section

121 -- Photograph location detecting element

122 -- Photograph extract section

123 -- Image expansion processing section

124 -- Portrait image extract section

125 -- Background-image composition section

126 -- Background-image storage section

13 -- Control section

3 -- ID card creation section

4 -- Communication line

MEANS

[Means for Solving the Problem] In order to solve the above-mentioned technical problem and to attain the purpose, the ID card listing device of this invention, the ID card creation approach, and the ID card are constituted as follows.

[0011] (1) An image reading means to read the image of the field set as magnitude including the photograph of regular magnitude with which the ID card listing device of this invention is stuck on a predetermined application etc., A photograph location detection means to detect a photograph edge from the image data obtained by this image reading means, A photograph extract means to extract a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected by this photograph location detection means, A portrait image extract means to extract a person part from the photograph extracted by this photograph extract means, A background-image storage means to memorize background-image data, and an image composition means to compound the person partial data extracted by said portrait image extract means to the background-image data memorized by this background-image storage means, and to generate a synthetic image to them, It has a card creation means to create the ID card which attached the synthetic image generated by this image composition means.

[0012] (2) The image reading process of reading the image of the field set as magnitude including the photograph of regular magnitude with which the ID card creation approach of this invention is stuck on a predetermined application etc., The photograph location detection process of detecting a photograph edge from the image data obtained according to this image reading process, The photograph extract process of extracting a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected according to this photograph location detection process, The portrait image extract process of extracting a person part from the photograph extracted according to this photograph extract process, It has the image composition process which compounds the person partial data extracted according to said portrait image extract process to the background-image data memorized beforehand, and generates a synthetic image to them, and the card creation process which creates the ID card which attached the synthetic image generated by this image composition process.

[0013] (3) The ID card of this invention reads the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc. A photograph is extracted from the obtained image data in the field of the magnitude which does not contain the edge of a parenthesis in the field which detects a photograph edge and is formed with the detected photograph edge. Person partial data are extracted from the extracted photograph, this extracted person partial data is compounded to the background-image data memorized beforehand, a synthetic image is generated, and the generated synthetic image is attached.

[0014]

[Embodiment of the Invention] Hereafter, 2 of the gestalt 1 of implementation of this invention and the gestalt of operation is explained with reference to a drawing.

[0015] Drawing 1 is the block diagram showing the outline configuration of the ID card listing device concerning the gestalt 1 of implementation of this invention. Drawing 2 is a

flow chart which shows the processing which creates an ID card by the ID card listing device concerning the gestalt 1 of implementation of this invention. Here, while explaining the ID card listing device concerning the gestalt 1 of implementation of this invention with reference to drawing 1 and drawing 2, creation of the ID card by this ID card listing device is explained.

[0016] As shown in drawing 1, the ID card listing device concerning the gestalt 1 of implementation of this invention is equipped with a motion picture camera 1 and the ID card creation section 3. A motion picture camera 1 and the ID card creation section 3 are connected by the communication line 4.

[0017] The motion picture camera 1 is equipped with a camera 11, the image-processing section 12, and a control section 13. Furthermore, the image-processing section 12 is equipped with the photograph location detecting element 121, the photograph extract section 122, and the image expansion processing section 123.

[0018] The application processor which is not illustrated is prepared in the motion picture camera 1. This application processor conveys one received application in every predetermined area, and, finally discharges it out of the airframe of this motion picture camera 1 while it receives an application. A camera 11 takes the photograph attached to the application conveyed according to an application processor, and receives image (face image) data. The photograph attachment location is beforehand established in the application in predetermined magnitude. A camera 11 reads an image according to the photograph attachment location established in the application in the field set as the magnitude containing the photograph size of the magnitude of the convention stuck on this photograph attachment location (ST1). Drawing 5 shows the situation. That is, a camera 11 reads the photograph 51 of convention size stuck on a photograph attachment location in the larger reading size 52 than the size of this photograph 51. This ST1 is equivalent to an image reading process.

[0019] The photograph location detecting element 121 as a photograph location detection means detects a photograph part from the image data obtained by image reading of a camera 11. In other words, the photograph location detecting element 121 detects the photograph edge 53 from image data (ST2). This ST2 is equivalent to a photograph location detection process. The photograph extract section 122 as a photograph extract means extracts a photograph 54 in the magnitude which does not contain the photograph edge 53 detected by the photograph location detecting element 121 (ST3). That is, a photograph is extracted in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the detected photograph edge. This ST3 is equivalent to a photograph extract process. The image expansion processing section 123 expands the photograph 54 extracted by the photograph extract section 122 to predetermined size if needed.

[0020] A control section 13 controls the motion picture camera 1 whole. For example, a control section 13 also manages the transfer control which transmits the photograph (or photograph expanded by the image expansion processing section 123) extracted by the photograph extract section 122 to the ID card creation section 3 through a communication line 4.

[0021] The ID card creation section 3 has data of the individual humanity news recorded on an ID card. The data of this individual humanity news are offered from the exterior (for example, based on keyboard entry) through a communication line 4. The ID card

creation section 3 records the photograph after the correction (background processing) transmitted through a communication line 4 from a motion picture camera 1, and the individual humanity news corresponding to this photograph on an ID card (ST4). The photograph attached to the ID card created in this ID card creation section 3 by this turns into a photograph suitable as an ID card. That is, it becomes the photograph with which neither the ruled line currently printed by the photograph edge and the application nor an alphabetic character appears.

[0022] In addition, although the above-mentioned explanation explained the case in which the motion picture camera 1 was equipped with the image-processing section 12, you may make it give the thing equivalent to this image-processing section 12 to the ID card issue section 3.

[0023] Drawing 3 is the block diagram showing the outline configuration of the ID card listing device concerning the gestalt 2 of implementation of this invention. Drawing 4 is a flow chart which shows the processing which creates an ID card by the ID card listing device concerning the gestalt 2 of implementation of this invention. Here, while explaining the ID card listing device concerning the gestalt 2 of implementation of this invention with reference to drawing 3 and drawing 4, creation of the ID card by this ID card listing device is explained.

[0024] As shown in drawing 3, the ID card listing device concerning the gestalt 2 of implementation of this invention is equipped with a motion picture camera 1 and the ID card creation section 3. A motion picture camera 1 and the ID card creation section 3 are connected by the communication line 4. In addition, explanation of the part which overlaps the ID card listing device concerning the gestalt 1 of the operation which gave [above-mentioned] explanation is simplified or omitted.

[0025] The motion picture camera 1 is equipped with a camera 11, the image-processing section 12, and a control section 13. Furthermore, the image-processing section 12 is equipped with the photograph location detecting element 121, the photograph extract section 122, the image expansion processing section 123, the portrait image extract section 124, the background-image composition section 125, and the background-image storage section 126.

[0026] The application processor which is not illustrated is prepared in the motion picture camera 1. This application processor is as the gestalt 1 of previous operation having explained. A camera 11 takes the photograph attached to the application conveyed according to this application processor, and receives image (face image) data. A camera 11 reads an image according to the photograph attachment location established in the application in the field set as the magnitude containing the photograph size of the magnitude of the convention stuck on this photograph attachment location (ST11). The reading size of a camera 11 is as the previous operation gestalt 1 having explained. This ST11 is equivalent to an image reading process.

[0027] The photograph location detecting element 121 as a photograph location detection means detects a photograph part from the image data obtained by image reading of a camera 11. In other words, the photograph location detecting element 121 detects the photograph edge 53 from image data (ST12). This ST12 is equivalent to a photograph location detection process. The photograph extract section 122 as a photograph extract means extracts a photograph 54 in the magnitude which does not contain the photograph edge 53 detected by the photograph location detecting element 121 (ST13). That is, a

photograph is extracted in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the detected photograph edge. This ST13 is equivalent to a photograph extract process. The image expansion processing section 123 expands the photograph 54 extracted by the photograph extract section 122 to predetermined size if needed.

[0028] The portrait image extract section 124 as a portrait image extract means extracts a person part (an upper-half-of-the-body part, face part, etc.) from the photograph (or photograph to which the edge was removed and expanded) from which the edge was removed (ST14). That is, the background image contained in the photograph from which the edge was removed is cut, and only a person part is extracted. The approach of detecting a person's edge, the method of detecting contrast, etc. are used for an extract. This ST14 is equivalent to a portrait image extract process. A predetermined background image (for example, blue back) is memorized by the background-image storage section 126 as a background-image storage means. The background-image composition section 125 as an image composition means compounds the person part extracted by the portrait image extract section 124 to the background-image data memorized by the background-image storage section 126, and generates a synthetic image to them (ST15). This ST15 is equivalent to an image composition process. A control section 13 controls the motion picture camera 1 whole. For example, a control section 13 also manages the transfer control which transmits the synthetic image generated by the portrait image composition section 125 to the ID card creation section 3 through a communication line 4.

[0029] The ID card creation section 3 has memorized the individual humanity news data recorded on an ID card. The ID card creation section 3 records the synthetic image transmitted through a communication line 4 from a motion picture camera 1, and the individual humanity news data corresponding to this synthetic image on an ID card (ST16). The photograph attached to the ID card created in this ID card creation section 3 by this will become suitable as an ID card. That is, it becomes the photograph with which neither the ruled line currently printed by the photograph edge and the application nor an alphabetic character appears. This ST16 is equivalent to a card creation process.

[0030] In addition, although the above-mentioned explanation explained the case in which the motion picture camera 1 was equipped with the image-processing section 12, you may make it give the thing equivalent to this image-processing section 12 to the ID card issue section 3.

[0031] Then, the fake alteration prevention using a background image is explained. By the above-mentioned explanation, the background-image storage section 126 explained as what has memorized the predetermined background image. As the predetermined background image, fake alteration of an ID card can be prevented by adopting the background image a shown in drawing 6 , and a background image b.

[0032] At the background image a, as shown in drawing 6 , two or more patterns for alteration prevention are embedded. As a pattern that it is embedded, the mark of the firm which distributes an ID card is employable. At the background image b, as shown in drawing 6 , the ID code for fake alteration prevention is embedded. That is, according to the ID card issue equipment of this invention, the image which adopted a background image for fake alteration prevention which was described above can be attached to a card.

[0033] Then, while explaining the trouble by the conventional ID card listing device, the operation effectiveness of the ID card listing device of this invention is explained.

[0034] In the conventional ID card listing device, if the photograph 61 stuck on the application is read in the reading size 62 slightly smaller than this photograph 61 as shown in drawing 7 (a) when the photograph of convention size is correctly stuck on the photograph attachment location on an application, the photograph 63 suitable as a certification photograph can be obtained.

[0035] However, in the conventional ID card listing device, when the photograph of big size which exceeds convention size in an application is stuck and the photograph 71 stuck on the application is read in the reading size 72 which was described above as shown in drawing 7 (b), the photograph 73 unsuitable as a certification photograph will be obtained. That is, a part of person part (parietal region etc.) in the photograph 71 stuck on the application may go out.

[0036] Moreover, since it is arranged in the conventional ID card listing device so that the reading location of a camera may counter the photograph attachment location on an application beforehand, When the photograph is stuck on the location [location / on an application / photograph attachment] shifted if the photograph 81 stuck in the condition of having shifted to the application is read in the reading size 82 which was described above as shown in drawing 7 (c), only the location where the stuck photograph shifted will be able to be read, but the photograph 83 unsuitable as a certification photograph will be obtained -- things -- **

[0037] On the other hand, since the ID card listing device of this invention can read an image in larger reading size than regular photograph size, can detect a photograph edge from the image data obtained by reading of this image, can extract the photograph which does not contain this detected photograph edge and can offer this extracted photograph as a certification photograph, it can solve a problem which was described above.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the ID card with which the portrait image was attached. Moreover, it is related with the ID card listing device which creates this ID card, and the ID card creation approach.

[0002]

[Description of the Prior Art] An ID card listing device reads the photograph stuck on the predetermined photograph attachment location on an ID card application, records individual humanity news, such as a photograph obtained by this reading, a name, the address, and a birth date, on an ID card (printing), and creates an ID card.

[0003] However, the photograph stuck on an application does not restrict being stuck on a predetermined photograph attachment location, but shifts from a predetermined attachment location to accuracy, and may always be stuck on it. In such a situation, when the image of a predetermined photograph attachment location is read as it is (i.e., if an image is read according to regular photograph size and a photograph is attached to an ID card based on it (printing etc.)), a photograph edge may appear in the printed image, or a ruled line, an alphabetic character, etc. which are printed by the application may appear. So, in the conventional ID card listing device, by reading an image in the field of size [a little] smaller than the photograph size of regular magnitude, it is devised so that it may prevent above-mentioned un-arranging.

[0004]

[Problem(s) to be Solved by the Invention] By the method which reads an image in the field of size [a little] smaller than the photograph size of the magnitude of the above-mentioned convention, since the person on a photograph (face) is made not to go out, reading size cannot be made extremely small. In other words, there was a problem that it could respond only to the photograph stuck by shifting slightly from the predetermined photograph attachment location. Moreover, the fake alteration preventive measures of an ID card are also important in recent years.

[0005] The purpose of this invention is to accomplish in view of a situation which was described above, and offer the following ID card listing device, the ID card creation approach, and an ID card.

[0006] (1) The ID card listing device which can create the ID card with which the gap of the attachment location of the certification photograph stuck on an application and the size error of a certification photograph were absorbed, and the photograph suitable as an object for ID cards was attached, and the ID card creation approach.

[0007] (2) The ID card listing device which can create the ID card excellent in fake alteration prevention, and the ID card creation approach.

[0008] (3) The ID card with which the size error of a gap of the attachment location of the certification photograph stuck on an application or a certification photograph was absorbed, and the photograph suitable as an object for ID cards was attached.

[0009] (4) The ID card excellent in fake alteration prevention.

[0010]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem and to attain the purpose, the ID card listing device of this invention, the ID card

creation approach, and the ID card are constituted as follows.

[0011] (1) An image reading means to read the image of the field set as magnitude including the photograph of regular magnitude with which the ID card listing device of this invention is stuck on a predetermined application etc., A photograph location detection means to detect a photograph edge from the image data obtained by this image reading means, A photograph extract means to extract a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected by this photograph location detection means, A portrait image extract means to extract a person part from the photograph extracted by this photograph extract means, A background-image storage means to memorize background-image data, and an image composition means to compound the person partial data extracted by said portrait image extract means to the background-image data memorized by this background-image storage means, and to generate a synthetic image to them, It has a card creation means to create the ID card which attached the synthetic image generated by this image composition means.

[0012] (2) The image reading process of reading the image of the field set as magnitude including the photograph of regular magnitude with which the ID card creation approach of this invention is stuck on a predetermined application etc., The photograph location detection process of detecting a photograph edge from the image data obtained according to this image reading process, The photograph extract process of extracting a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected according to this photograph location detection process, The portrait image extract process of extracting a person part from the photograph extracted according to this photograph extract process, It has the image composition process which compounds the person partial data extracted according to said portrait image extract process to the background-image data memorized beforehand, and generates a synthetic image to them, and the card creation process which creates the ID card which attached the synthetic image generated by this image composition process.

[0013] (3) The ID card of this invention reads the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc. A photograph is extracted from the obtained image data in the field of the magnitude which does not contain the edge of a parenthesis in the field which detects a photograph edge and is formed with the detected photograph edge. Person partial data are extracted from the extracted photograph, this extracted person partial data is compounded to the background-image data memorized beforehand, a synthetic image is generated, and the generated synthetic image is attached.

[0014]

[Embodiment of the Invention] Hereafter, 2 of the gestalt 1 of implementation of this invention and the gestalt of operation is explained with reference to a drawing.

[0015] Drawing 1 is the block diagram showing the outline configuration of the ID card listing device concerning the gestalt 1 of implementation of this invention. Drawing 2 is a flow chart which shows the processing which creates an ID card by the ID card listing device concerning the gestalt 1 of implementation of this invention. Here, while explaining the ID card listing device concerning the gestalt 1 of implementation of this invention with reference to drawing 1 and drawing 2, creation of the ID card by this ID

card listing device is explained.

[0016] As shown in drawing 1, the ID card listing device concerning the gestalt 1 of implementation of this invention is equipped with a motion picture camera 1 and the ID card creation section 3. A motion picture camera 1 and the ID card creation section 3 are connected by the communication line 4.

[0017] The motion picture camera 1 is equipped with a camera 11, the image-processing section 12, and a control section 13. Furthermore, the image-processing section 12 is equipped with the photograph location detecting element 121, the photograph extract section 122, and the image expansion processing section 123.

[0018] The application processor which is not illustrated is prepared in the motion picture camera 1. This application processor conveys one received application in every predetermined area, and, finally discharges it out of the airframe of this motion picture camera 1 while it receives an application. A camera 11 takes the photograph attached to the application conveyed according to an application processor, and receives image (face image) data. The photograph attachment location is beforehand established in the application in predetermined magnitude. A camera 11 reads an image according to the photograph attachment location established in the application in the field set as the magnitude containing the photograph size of the magnitude of the convention stuck on this photograph attachment location (ST1). Drawing 5 shows the situation. That is, a camera 11 reads the photograph 51 of convention size stuck on a photograph attachment location in the larger reading size 52 than the size of this photograph 51. This ST1 is equivalent to an image reading process.

[0019] The photograph location detecting element 121 as a photograph location detection means detects a photograph part from the image data obtained by image reading of a camera 11. In other words, the photograph location detecting element 121 detects the photograph edge 53 from image data (ST2). This ST2 is equivalent to a photograph location detection process. The photograph extract section 122 as a photograph extract means extracts a photograph 54 in the magnitude which does not contain the photograph edge 53 detected by the photograph location detecting element 121 (ST3). That is, a photograph is extracted in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the detected photograph edge. This ST3 is equivalent to a photograph extract process. The image expansion processing section 123 expands the photograph 54 extracted by the photograph extract section 122 to predetermined size if needed.

[0020] A control section 13 controls the motion picture camera 1 whole. For example, a control section 13 also manages the transfer control which transmits the photograph (or photograph expanded by the image expansion processing section 123) extracted by the photograph extract section 122 to the ID card creation section 3 through a communication line 4.

[0021] The ID card creation section 3 has data of the individual humanity news recorded on an ID card. The data of this individual humanity news are offered from the exterior (for example, based on keyboard entry) through a communication line 4. The ID card creation section 3 records the photograph after the correction (background processing) transmitted through a communication line 4 from a motion picture camera 1, and the individual humanity news corresponding to this photograph on an ID card (ST4). The photograph attached to the ID card created in this ID card creation section 3 by this turns

into a photograph suitable as an ID card. That is, it becomes the photograph with which neither the ruled line currently printed by the photograph edge and the application nor an alphabetic character appears.

[0022] In addition, although the above-mentioned explanation explained the case in which the motion picture camera 1 was equipped with the image-processing section 12, you may make it give the thing equivalent to this image-processing section 12 to the ID card issue section 3.

[0023] Drawing 3 is the block diagram showing the outline configuration of the ID card listing device concerning the gestalt 2 of implementation of this invention. Drawing 4 is a flow chart which shows the processing which creates an ID card by the ID card listing device concerning the gestalt 2 of implementation of this invention. Here, while explaining the ID card listing device concerning the gestalt 2 of implementation of this invention with reference to drawing 3 and drawing 4, creation of the ID card by this ID card listing device is explained.

[0024] As shown in drawing 3, the ID card listing device concerning the gestalt 2 of implementation of this invention is equipped with a motion picture camera 1 and the ID card creation section 3. A motion picture camera 1 and the ID card creation section 3 are connected by the communication line 4. In addition, explanation of the part which overlaps the ID card listing device concerning the gestalt 1 of the operation which gave [above-mentioned] explanation is simplified or omitted.

[0025] The motion picture camera 1 is equipped with a camera 11, the image-processing section 12, and a control section 13. Furthermore, the image-processing section 12 is equipped with the photograph location detecting element 121, the photograph extract section 122, the image expansion processing section 123, the portrait image extract section 124, the background-image composition section 125, and the background-image storage section 126.

[0026] The application processor which is not illustrated is prepared in the motion picture camera 1. This application processor is as the gestalt 1 of previous operation having explained. A camera 11 takes the photograph attached to the application conveyed according to this application processor, and receives image (face image) data. A camera 11 reads an image according to the photograph attachment location established in the application in the field set as the magnitude containing the photograph size of the magnitude of the convention stuck on this photograph attachment location (ST11). The reading size of a camera 11 is as the previous operation gestalt 1 having explained. This ST11 is equivalent to an image reading process.

[0027] The photograph location detecting element 121 as a photograph location detection means detects a photograph part from the image data obtained by image reading of a camera 11. In other words, the photograph location detecting element 121 detects the photograph edge 53 from image data (ST12). This ST12 is equivalent to a photograph location detection process. The photograph extract section 122 as a photograph extract means extracts a photograph 54 in the magnitude which does not contain the photograph edge 53 detected by the photograph location detecting element 121 (ST13). That is, a photograph is extracted in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the detected photograph edge. This ST13 is equivalent to a photograph extract process. The image expansion processing section 123 expands the photograph 54 extracted by the photograph extract section 122 to

predetermined size if needed.

[0028] The portrait image extract section 124 as a portrait image extract means extracts a person part (an upper-half-of-the-body part, face part, etc.) from the photograph (or photograph to which the edge was removed and expanded) from which the edge was removed (ST14). That is, the background image contained in the photograph from which the edge was removed is cut, and only a person part is extracted. The approach of detecting a person's edge, the method of detecting contrast, etc. are used for an extract. This ST14 is equivalent to a portrait image extract process. A predetermined background image (for example, blue back) is memorized by the background-image storage section 126 as a background-image storage means. The background-image composition section 125 as an image composition means compounds the person part extracted by the portrait image extract section 124 to the background-image data memorized by the background-image storage section 126, and generates a synthetic image to them (ST15). This ST15 is equivalent to an image composition process. A control section 13 controls the motion picture camera 1 whole. For example, a control section 13 also manages the transfer control which transmits the synthetic image generated by the portrait image composition section 125 to the ID card creation section 3 through a communication line 4.

[0029] The ID card creation section 3 has memorized the individual humanity news data recorded on an ID card. The ID card creation section 3 records the synthetic image transmitted through a communication line 4 from a motion picture camera 1, and the individual humanity news data corresponding to this synthetic image on an ID card (ST16). The photograph attached to the ID card created in this ID card creation section 3 by this will become suitable as an ID card. That is, it becomes the photograph with which neither the ruled line currently printed by the photograph edge and the application nor an alphabetic character appears. This ST16 is equivalent to a card creation process.

[0030] In addition, although the above-mentioned explanation explained the case in which the motion picture camera 1 was equipped with the image-processing section 12, you may make it give the thing equivalent to this image-processing section 12 to the ID card issue section 3.

[0031] Then, the fake alteration prevention using a background image is explained. By the above-mentioned explanation, the background-image storage section 126 explained as what has memorized the predetermined background image. As the predetermined background image, fake alteration of an ID card can be prevented by adopting the background image a shown in drawing 6 , and a background image b.

[0032] At the background image a, as shown in drawing 6 , two or more patterns for alteration prevention are embedded. As a pattern that it is embedded, the mark of the firm which distributes an ID card is employable. At the background image b, as shown in drawing 6 , the ID code for fake alteration prevention is embedded. That is, according to the ID card issue equipment of this invention, the image which adopted a background image for fake alteration prevention which was described above can be attached to a card.

[0033] Then, while explaining the trouble by the conventional ID card listing device, the operation effectiveness of the ID card listing device of this invention is explained.

[0034] In the conventional ID card listing device, if the photograph 61 stuck on the application is read in the reading size 62 slightly smaller than this photograph 61 as shown in drawing 7 (a) when the photograph of convention size is correctly stuck on the photograph attachment location on an application, the photograph 63 suitable as a

certification photograph can be obtained.

[0035] However, in the conventional ID card listing device, when the photograph of big size which exceeds convention size in an application is stuck and the photograph 71 stuck on the application is read in the reading size 72 which was described above as shown in drawing 7 (b), the photograph 73 unsuitable as a certification photograph will be obtained. That is, a part of person part (parietal region etc.) in the photograph 71 stuck on the application may go out.

[0036] Moreover, since it is arranged in the conventional ID card listing device so that the reading location of a camera may counter the photograph attachment location on an application beforehand, When the photograph is stuck on the location [location / on an application / photograph attachment] shifted if the photograph 81 stuck in the condition of having shifted to the application is read in the reading size 82 which was described above as shown in drawing 7 (c), only the location where the stuck photograph shifted will be able to be read, but the photograph 83 unsuitable as a certification photograph will be obtained -- things -- **

[0037] On the other hand, since the ID card listing device of this invention can read an image in larger reading size than regular photograph size, can detect a photograph edge from the image data obtained by reading of this image, can extract the photograph which does not contain this detected photograph edge and can offer this extracted photograph as a certification photograph, it can solve a problem which was described above.

[0038]

[Effect of the Invention] According to this invention, the following ID card listing device, the ID card creation approach, and an ID card can be offered.

[0039] (1) The ID card listing device which can create the ID card with which the size error of a gap of the attachment location of the certification photograph stuck on an application or a certification photograph was absorbed, and the photograph suitable as an object for ID cards was attached, and the ID card creation approach.

[0040] (2) The ID card listing device which can create the ID card excellent in fake alteration prevention, and the ID card creation approach.

[0041] (3) The ID card with which the size error of a gap of the attachment location of the certification photograph stuck on an application or a certification photograph was absorbed, and the photograph suitable as an object for ID cards was attached.

[0042] (4) The ID card excellent in fake alteration prevention.

CLAIMS

[Claim(s)]

[Claim 1] An image reading means to read the image of the predetermined field which included the photograph at least, A photograph location detection means to detect a photograph part from the image data obtained by this image reading means, A photograph extract means to extract a photograph from the photograph part detected by this photograph location detection means in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with a photograph edge, The ID card listing device characterized by having an ID card creation means to create the ID card which attached the photograph extracted by this photograph extract means.

[Claim 2] An image reading means to read the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc., A photograph location detection means to detect a photograph edge from the image data obtained by this image reading means, A photograph extract means to extract a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected by this photograph location detection means, The ID card listing device characterized by having an ID card creation means to create the ID card which attached the photograph extracted by this photograph extract means.

[Claim 3] An image reading means to read the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc., A photograph location detection means to detect a photograph edge from the image data obtained by this image reading means, A photograph extract means to extract a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected by this photograph location detection means, A portrait image extract means to extract a person part from the photograph extracted by this photograph extract means, A background-image storage means to memorize background-image data, and an image composition means to compound the person partial data extracted by said portrait image extract means to the background-image data memorized by this background-image storage means, and to generate a synthetic image to them, The ID card listing device characterized by having a card creation means to create the ID card which attached the synthetic image generated by this image composition means.

[Claim 4] The ID card listing device according to claim 3 to which said background-image storage means is characterized by what it has for the storage section which memorizes the background-image data with which fake alteration prevention data were inserted.

[Claim 5] The ID card listing device according to claim 3 to which said background-image storage means is characterized by what it has for the storage section which memorizes at least one side of the background-image data with which two or more predetermined marks for the background-image data with which the ID code for fake alteration prevention was inserted, and alteration prevention were inserted.

[Claim 6] The image reading process of reading the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc., The photograph location detection process of detecting a photograph edge from the image

data obtained according to this image reading process, The photograph extract process of extracting a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected according to this photograph location detection process, The ID card creation approach characterized by having the card creation process which creates the ID card which attached the photograph extracted according to this photograph extract process.

[Claim 7] The image reading process of reading the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc., The photograph location detection process of detecting a photograph edge from the image data obtained according to this image reading process, The photograph extract process of extracting a photograph in the field of the magnitude which does not contain the photograph edge of a parenthesis in the field formed with the photograph edge detected according to this photograph location detection process, The portrait image extract process of extracting a person part from the photograph extracted according to this photograph extract process, The image composition process which compounds the person partial data extracted according to said portrait image extract process to the background-image data memorized beforehand, and generates a synthetic image to them, The ID card creation approach characterized by having the card creation process which creates the ID card which attached the synthetic image generated by this image composition process.

[Claim 8] Said image composition process is the ID card creation approach according to claim 7 characterized by compounding the person partial data extracted according to said portrait image extract process by said background-image data which fake alteration prevention data were inserted and were memorized beforehand.

[Claim 9] The ID card characterized by having read the image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc., having detected the photograph edge, having extracted the photograph from the obtained image data in the field of the magnitude which does not contain the edge of a parenthesis in the field formed with the detected photograph edge, and attaching this extracted photograph.

[Claim 10] The image of the field set as magnitude including the photograph of regular magnitude stuck on a predetermined application etc. is read. A photograph is extracted from the obtained image data in the field of the magnitude which does not contain the edge of a parenthesis in the field which detects a photograph edge and is formed with the detected photograph edge. The ID card characterized by having extracted person partial data from the extracted photograph, having compounded this extracted person partial data to the background-image data memorized beforehand, having generated the synthetic image, and attaching the generated synthetic image.

[Claim 11] The ID card according to claim 10 characterized by embedding fake alteration prevention data to said background-image data.

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CLAIMS

[Claim(s)]

[Claim 1] It is digital image pick-up equipment which obtains the photography image data which is digital data of the photography image containing the candidate for photography. A frame storage means to memorize the image data of the frame which shows the ideal field which should occupy the candidate for thing photography in a photography image corresponding to each for [two or more] photography, The frame selection means for carrying out a selection input, using the frame of either of said two or more frames as a selection frame, A display means to display in piles said selection frame and the monitor image which is a photography candidate's image, An image pick-up means to obtain the photography image data equivalent to said monitor image displayed on the display means, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography, and the object domain which is said ideal field in said selection frame, Digital image pick-up equipment characterized by the thing which associate said photography image data mutually and is recorded on the predetermined candidate for record, and for which it relates and has a record means.

[Claim 2] Digital image pick-up equipment characterized by being digital image pick-up equipment according to claim 1, and being what performs said frame selection when said frame selection means chooses one of keywords from among the keywords corresponding to each of two or more of said frames.

[Claim 3] It is digital image pick-up equipment according to claim 1, and is what has an object domain coordinate for pinpointing the name for photography and said object domain for said specific information specifying the class for [said] photography. An information derivation means by which said related attachment record means searches for said name for photography corresponding to said selection frame, and said object domain coordinate, Digital image pick-up equipment characterized by having a record means to associate mutually said name for photography and said object domain coordinate, and said photography image data, and to record on the predetermined candidate for record.

[Claim 4] Digital image pick-up equipment which is digital image pick-up equipment according to claim 1 to 3, and is further characterized by having the amendment means which amends said photography image data, referring to said specific information.

[Claim 5] Digital image pick-up equipment characterized by to have a template storage means memorize the template which is digital image pick-up equipment according to claim 1 to 4, and is the image which is compounded by photography image data and turns into some photography images further, and which was prepared beforehand, and a template composition means read said template from said template storage means, and compound to said photography image data, referring to said specific information.

[Claim 6] The image processing system characterized by having the computer which has digital image pick-up equipment according to claim 1 to 3, the read-out means which reads said photography image data and said specific information from said predetermined candidate for record, and the photography image amendment means which amends said photography image data based on said specific information.

[Claim 7] Digital image pick-up equipment according to claim 1 to 4 and a template storage means to memorize the template which is the image which is compounded by

photography image data and turns into some photography images, and which was prepared beforehand, The read-out means which reads said photography image data and said specific information from said predetermined candidate for record, The image processing system characterized by having the computer which has a template composition means to read said template from said template storage means based on said specific information, and to compound to said photography image data.

[Claim 8] The digital image pick-up equipment which is an image processing system and was connected possible [the record medium which can be detached and attached freely, or a communication link] to the photography image data which performs an image processing to the photography image data which is digital data of the photography image containing the candidate for photography, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, The image processing system characterized by having the photography image amendment means which amends said photography image data based on said specific information.

[Claim 9] It is the image processing system which performs an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. A template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography images, and which was prepared beforehand, The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, The image processing system characterized by having a template composition means to read said template from said template storage means, and to compound to said photography image data, based on said specific information.

[Claim 10] It is the digital image pick-up approach of obtaining the photography image data which is digital data of the photography image containing the candidate for photography. It has the frame which is the image in which the ideal field which should occupy the candidate for photography in a photography image is shown to each for [two or more] photography. The frame selection process which uses the frame of either of two or more frames concerned as a selection frame, and carries out a selection input, The display process which displays in piles said selection frame and the monitor image which is a photography candidate's image, The image pick-up process which obtains the photography image data equivalent to said monitor image displayed on the display means, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography, and the object domain which is said ideal field in said selection frame, The digital image pick-up approach characterized by the thing which associate said photography image data mutually and is recorded on the predetermined candidate for record, and for which it relates and has a record process.

[Claim 11] In the record medium which recorded the program for obtaining the photography image data which is digital data of the photography image which contains the candidate for photography with digital image pick-up equipment It has the frame

which is the image in which the ideal field which should occupy the candidate for photography in a photography image is shown to each for [two or more] photography. The frame optional feature which uses the frame of either of two or more frames concerned as a selection frame, and carries out a selection input, The image pick-up function to obtain the photography image data which displays in piles said selection frame and the monitor image which is a photography candidate's image on a display means, and is equivalent to said monitor image, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography, and the object domain which is said ideal field in said selection frame, The digital image pick-up equipment characterized by recording the program which associates said photography image data mutually and is recorded on the predetermined candidate for record, and which it relates [program] and realizes a record function, and the record medium in which computer reading is possible.

[Claim 12] In the record medium which recorded the program for a computer to perform an image processing to the photography image data which is digital data of the photography image containing the candidate for photography The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out function which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, The record medium which is characterized by recording the program which realizes the amendment function which amends said photography image data based on said specific information and in which computer reading is possible.

[Claim 13] In the record medium which recorded the program for a computer to perform an image processing to the photography image data which is digital data of the photography image containing the candidate for photography The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out function which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, The template composition function which compounds the template which is the image which is compounded by said photography image data and turns into some photography images based on said specific information, and which was prepared beforehand to said photography image data, The record medium which is characterized by recording the program to realize and in which computer reading is possible.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the digital image pick-up equipment which obtains the photography image data which is digital data of the photography image containing the candidate for photography, the image processing system equipped with it, an image processing system, the digital image pick-up approach, and a record medium.

[0002]

[Description of the Prior Art] In recent years, the image data which many cameras which can perform image amendment are offered, among those was photoed is memorized for [predetermined] storage, and the technique of JP,11-136568,A is known as a camera which can perform various image amendment processings to the photography image data memorized at the time of a next print and playback. An internal memory or external memory is made to memorize the image data obtained by a user's specifying the main photographic subject and performing an automatic focus and automatic exposure based on that information at the time of photography with this technique. In that case, the positional information of the main photographic subject which the photography person inputted with the touch panel with image data is also made to memorize, and brightness amendment, image quality amendment, etc. of the main photographic subject circumference are performed using the positional information of the main photographic subject at the time of a next print and playback.

[0003]

[Problem(s) to be Solved by the Invention] However, with the above-mentioned conventional technique, when the main photographic subject was what kind of thing, the candidate for photography whether you are a person, whether it is an animal, and whether it is scenery was not found but image processings, such as next image amendment, were performed, the photography person needed to input the candidate for photography separately.

[0004] Moreover, in order to input the candidate for photography in the cases, such as next image amendment, it needed to have input means, such as an input screen for it, and the manufacturing cost was rising.

[0005] This invention has the intention of conquest of the above-mentioned problem in the conventional technique, and aims at offering the cheap digital image pick-up equipment which can perform an image processing easily to the image data read after being recorded, the image processing system equipped with it, an image processing system, the digital image pick-up approach, and a record medium.

[0006]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention of claim 1 It is digital image pick-up equipment which obtains the photography image data which is digital data of the photography image containing the candidate for photography. A frame storage means to memorize the image data of the frame which shows the ideal field which should occupy the candidate for thing photography in a photography image corresponding to each for [two or more] photography, The frame selection means for carrying out a selection input, using the frame of either of said two or more frames as a selection frame, A display means to display in piles said selection frame

and the monitor image which is a photography candidate's image, An image pick-up means to obtain the photography image data equivalent to said monitor image displayed on the display means, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography and the object domain which is said ideal field in said selection frame, and said photography image data were associated mutually, and it recorded on the predetermined candidate for record, related with it, and has the record means.

[0007] Moreover, invention of claim 2 is digital image pick-up equipment according to claim 1, and when said frame selection means chooses one of keywords from from among the keywords corresponding to each of two or more of said frames, it performs said frame selection.

[0008] Moreover, invention of claim 3 is digital image pick-up equipment according to claim 1. It is what has an object domain coordinate for pinpointing the name for photography and said object domain for said specific information specifying the class for [said] photography. It has the record means which said related attachment record means associates mutually an information derivation means to search for said name for photography corresponding to said selection frame, and said object domain coordinate, said name for photography and said object domain coordinate, and said photography image data, and records on the predetermined candidate for record.

[0009] Moreover, invention of claim 4 is digital image pick-up equipment according to claim 1 to 3, and it is further equipped with the amendment means which amends said photography image data, referring to said specific information.

[0010] Moreover, invention of claim 5 is digital image pick-up equipment according to claim 1 to 4, and is equipped with a template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography images further, and which was prepared beforehand, and a template composition means to read said template from said template storage means, and to compound to said photography image data, referring to said specific information.

[0011] Moreover, invention of claim 6 is equipped with the computer which has digital image pick-up equipment according to claim 1 to 3, the read-out means which reads said photography image data and said specific information from said predetermined candidate for record, and the photography image amendment means which amends said photography image data based on said specific information.

[0012] Invention of claim 7 Moreover, digital image pick-up equipment according to claim 1 to 4, A template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography images, and which was prepared beforehand, The read-out means which reads said photography image data and said specific information from said predetermined candidate for record, It has the computer which has a template composition means to read said template from said template storage means based on said specific information, and to compound to said photography image data.

[0013] Moreover, invention of claim 8 is an image processing system which performs an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, It has the read-out means which reads

the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, and the photography image amendment means which amends said photography image data based on said specific information.

[0014] Moreover, invention of claim 9 is an image processing system which performs an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. A template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography images, and which was prepared beforehand, The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, Based on said specific information, it has a template composition means to read said template from said template storage means, and to compound to said photography image data.

[0015] Moreover, invention of claim 10 is the digital image pick-up approach of obtaining the photography image data which is digital data of the photography image containing the candidate for photography. It has the frame which is the image in which the ideal field which should occupy the candidate for photography in a photography image is shown to each for [two or more] photography. The frame selection process which uses the frame of either of two or more frames concerned as a selection frame, and carries out a selection input, The display process which displays in piles said selection frame and the monitor image which is a photography candidate's image, The image pick-up process which obtains the photography image data equivalent to said monitor image displayed on the display means, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography and the object domain which is said ideal field in said selection frame, and said photography image data were associated mutually, and it recorded on the predetermined candidate for record, related with it, and has the record process.

[0016] Moreover, invention of claim 11 is the record medium which recorded the program for obtaining the photography image data which is digital data of the photography image which contains the candidate for photography with digital image pick-up equipment. It has the frame which is the image in which the ideal field which should occupy the candidate for photography in a photography image is shown to each for [two or more] photography. The frame optional feature which uses the frame of either of two or more frames concerned as a selection frame, and carries out a selection input, The image pick-up function to obtain the photography image data which displays in piles said selection frame and the monitor image which is a photography candidate's image on a display means, and is equivalent to said monitor image, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography, and the object domain which is said ideal field in said selection frame, The program which associates said photography image data mutually and is recorded on the predetermined candidate for record and which it relates [program

] and realizes a record function is recorded.

[0017] Moreover, invention of claim 12 is the record medium which recorded the program for a computer to perform an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out function which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, The program which realizes the amendment function which amends said photography image data based on said specific information is recorded.

[0018] Furthermore, invention of claim 13 is the record medium which recorded the program for a computer to perform an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out function which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, Based on said specific information, the program which realizes the template composition function which compounds the template which is the image which is compounded by said photography image data and turns into some photography images, and which was prepared beforehand to said photography image data is recorded.

[0019]

[Embodiment of the Invention] Hereafter, it explains, referring to a drawing about the gestalt of implementation of this invention.

[0020] <1.< [gestalt / of the 1st operation / >] <1-1. whole configuration >> drawing 1 and drawing 2 are the perspective views showing the external configuration of digital camera 1A (1B) concerning the gestalt of operation of this invention, drawing 1 is a perspective view from a transverse-plane side, and drawing 2 is a perspective view from a tooth-back side. Hereafter, with reference to drawing 1 and drawing 2 , a whole digital camera 1A (1B) configuration is explained.

[0021] Digital camera 1A (1B) has structure divided roughly into the image pick-up section 3, and the abbreviation rectangular parallelepiped-like body 10 of a camera.

[0022] The image pick-up section 3 is equipped with a taking lens 31, image formation optical system (illustration abbreviation), and an individual image sensor (illustration abbreviation), carries out image formation of the light which carries out incidence from a taking lens 31 to an individual image sensor according to image formation optical system, and obtains the photography image data as digital data with an individual image sensor.

[0023] In the transverse-plane upper part of the body 10 of a camera, light is emitted based on control of CPU mentioned later, and the flash plate 5 which illuminates a photographic subject is formed. Moreover, the release carbon button 7 is arranged in the top face of the body 10 of a camera.

[0024] The release carbon button 7 is the operating member from which a shutter will be in a release condition by the photography preparatory state and all push by half-push.

[0025] Moreover, the memory card insertion opening 18 is formed in one side face of the

body 10 of a camera. The memory card insertion opening 18 is insertion opening formed in the shape of a slit, is for inserting the external record medium (henceforth a memory card) 100 into the body 10 of a camera, and is equipped with the memory card interface (I/F) later mentioned inside.

[0026] Furthermore, the definite carbon button 13, scroll buttons 14 and 15, and a display 17 are formed in the tooth back of the body 10 of a camera.

[0027] Where the image of the frame explained in full detail to the monitor image which is an image of the photography candidate who the display 17 consisted of LCD etc. and was arrested through the image pick-up section 3 at the time of photography, and the back is piled up, display, or The photography image data which was photoed and was memorized by the memory card (after-mentioned) is displayed, or selection / setting screen for choosing and setting up further various kinds of items (the keyword mentioned later being included) etc. is displayed.

[0028] Scroll buttons 14 and 15 are carbon buttons for a user to choose the thing of arbitration from two or more items in the condition that selection / setting screen is displayed, and whenever the item chosen whenever it pushed the scroll button 14 pushes passing <a thing> on (UP) and a scroll button 15, backward feed (DOWN) of them is carried out. Moreover, scroll buttons 14 and 15 are also access carbon buttons which call the photography image data recorded on the memory card 100 at the time of playback of the already photoed photography image data, and whenever it pushes a scroll button 14 and a record image pushes passing <a thing> on (UP) and a scroll button 15, backward feed (DOWN) of them is carried out.

[0029] Drawing 3 is the block diagram showing the functional configuration of digital camera 1A (1B) concerning the operation gestalt of this invention.

[0030] This digital camera 1A (1B) is equipped with CPU20 as a system controller which controls actuation of the whole digital camera. This CPU20 reads and stores in RAM42 the control program installed in the flash ROM 41 at the time of actuation, and realizes the various functions shown below by performing it.

[0031] The photography image data obtained in the image pick-up section 3 is saved at RAM42 temporarily, is displayed on a display 17, or is further given to the basis of control of the image amendment processing and template composition processing which are mentioned later of CPU20 in the signal-processing section 43. Moreover, a memory card 100 is the record medium which can record the photography image data of two or more sheets which can detach and attach on the body 10 of a camera freely, for example, becomes it from SRAM etc., and the data transfer of it is possible between a memory card 100 and CPU20 through the memory card interface (I/F) 44 established in the memory card insertion opening 18. Thereby, the photography image data to which image amendment processing later mentioned in the signal-processing section 43 was carried out is recorded on the basis of control of CPU20 by the memory card 100 through memory card I/F44 at the time of photography. Moreover, CPU20 can read the photography image data currently conversely recorded on the memory card 100, and it can also be made to display on a display 17.

[0032] Moreover, the above-mentioned release carbon button 7, the definite carbon button 13, a scroll button 14, and the signal by the control unit 50 of 15 grades are sent to CPU20, and CPU20 recognizes the various actuation by the user. Furthermore, CPU20 will be controlled to carry out release of the shutter 45, if all push [the release carbon

button 7].

[0033] In addition, the control program of above-mentioned CPU20 can be updated using the memory card 101 for a setup which is equivalent to the record medium of this invention if needed for that functional enhancement etc. Specifically to the memory card 101 for a setup The control program after the update which should be installed after uninstalling the control program already installed in the flash ROM 41, The update program for updating the already installed control program is recorded, and the memory card insertion opening 18 is equipped with the memory card 101 for a setup. These control programs and an update program can be read and installed from the memory card 101 for a setup.

[0034] < <1-2. actuation and processing >> drawing 4 is a flow chart which shows actuation of digital camera 1A at the time of photography, and control by CPU20. Hereafter, actuation of this digital camera 1A and control by CPU20 are explained, referring to drawing 4 . In addition, unless it specifies especially, control of the following processings is performed by CPU20.

[0035] First, the list of keywords is displayed on a display 17 (drawing 4 : step S1). Drawing 5 is drawing showing the situation of the selection input screen SP of the frame by the keyword. In case a user takes a photograph in digital camera 1A in the gestalt of this operation, the image of a frame in which the ideal field which the candidate for photography should occupy in photographic coverage is shown, and the monitor image which is a photography candidate's image are displayed on a display 17 in piles, and a photograph can be taken in the composition to which the user was easily suitable for the candidate for photography by that cause so that it may become the composition for which it was suitable for every candidate for photography. And first, the list of the keywords corresponding to each frame is expressed to a display 17 as step S1 so that a user may choose the frame. In drawing 5 , the portrait size K1, the portrait smallness K2, portrait two or more size K3, portrait two or more smallness K4, crest K5, and a total of six keywords of the sea K6 are displayed as selections.

[0036]

[Table 1]

[0037] Table 1 is a table showing the name for photography and object domain coordinate corresponding to each keyword. Here, the name for photography is the name of the class for [corresponding to a keyword] photography. As shown in Table 1, the names for photography corresponding to each of the portrait size K1 and the portrait

smallness K2 are "person unit size" and "person unit smallness", and the frame corresponding to them is a frame for photoing one person greatly and small, respectively. The names for photography corresponding to portrait two or more size K3 and portrait two or more smallness K4 are "person two or more size" and "person two or more smallness", and the frame corresponding to them is a frame for photoing two or more persons greatly and small, respectively. The names for photography corresponding to crest K5 and the sea K6 are a "crest" and the "sea", and the frame corresponding to them is a frame for photoing the scenery of a crest and the sea, respectively.

[0038] Drawing 6 and drawing 7 are drawings showing the example of a frame, and drawing 6 (a) is drawing in which drawing 6 (b) shows a marine frame, and drawing 7 shows the frame of a crest for the frame of person unit size, respectively. Monitor display MP displayed in the case of photography where a monitor image and a frame are piled up as mentioned above is displayed on a display, and looking at monitor display MP, a user takes a photograph so that the candidate for photography in a monitor image may be settled in a frame. The name for photography like drawing 6 (a) with the frame F1 of the rectangle to person unit size specifically one person's face With the frame (illustration abbreviation) of a long rectangle, to the length to person unit smallness, one person's whole body The upper half of the body of two or more persons who stood in a line horizontally to person two or more size with the frame (illustration abbreviation) of a long rectangle The whole body of two or more persons who stood in a line horizontally to person two or more smallness with the frame (illustration abbreviation) of a long rectangle With the frame F2 of the rectangle to the sea, like drawing 6 (b), by the frame F3 of a rectangle [as opposed to a crest in below a marine horizontal line], a photograph is taken so that below the mountain side of a crest may be settled in a frame like drawing 7 , respectively.

[0039] Moreover, when an object domain coordinate is a coordinate value for pinpointing the field in each frame, i.e., the ideal field which the candidate for photography should occupy, and each point in a photography image (it corresponds to each pixel of a display 17) is expressed with a coordinate (x y), each frame is characteristic -- two coordinates of the top-most vertices of the upper left and the lower right are expressed more in Table 1 and drawing 6 , and drawing 7 as (xi2, yi2) to the detail, respectively (xi1, yi1). Here, i (= 1-6) is a number showing each frame. The size of a frame and the location in a photography image can be uniquely pinpointed with such a coordinate value.

[0040] Next, among the keywords displayed on the display 17, from from, a user chooses any they are and it sets up (drawing 4 : step S2). As shown in drawing 5 , the inverse video of any one of two or more keywords displayed on the display 17 is carried out, and, specifically, this inverse video is gone up and down with scroll buttons 14 and 15 (UP, DOWN). And a user can choose and specify the frame corresponding to the keyword by pushing a definite carbon button, after the desired keyword has been reversed.

[0041] Next, a frame is displayed in the condition of having put on the display 17 with the monitor image (drawing 4 : step S3). The displays in the display 17 at this time are drawing 6 and drawing 7 , and the images and monitor images of a frame overlap and are displayed, respectively.

[0042] Next, if a user pushes the release carbon button 7, CPU20 will carry out release of the shutter 45 (drawing 4: step S4).

[0043] Then, CPU20 reads the name for photography and object domain coordinate

corresponding to the selected frame from the frame table memorized by the flash ROM 41 (drawing 4 : step S5). This frame table is a table on which the name for photography and object domain coordinate corresponding to each frame which were shown in Table 1 were matched and memorized.

[0044] Next, CPU20 controls the signal-processing section 43 according to assignment of a user, and performs image amendment processing to photography image data (drawing 4 : step S6).

[0045] Hereafter, image amendment processing is explained. Drawing 8 is a flow chart which shows the procedure of image amendment.

[0046] First, CPU20 reads a standard amendment parameter from a flash ROM 41, and sets it up (drawing 8 : step S11). Specifically it is not concerned with the contents of an image (candidate for photography), but the amendment parameter which is used as standard to the whole image and which was beforehand memorized by the flash ROM 41 is read to RAM42, and it stores in the predetermined address. Here, amendment parameters are data to an image which specified the contents of processing of the image amendment which should be performed, such as modification of sharpness processing, contrast, saturation, etc., etc., and adjustment.

[0047] Next, refer to the data of the name for photography corresponding to the selected frame stored in RAM42, and an object domain coordinate for CPU20 (drawing 8 : step S12).

[0048] Next, CPU20 is changed into the amendment parameter corresponding to the candidate for photography about the inside of an object domain (drawing 8 : step S13). Specifically, CPU20 is changed into the amendment parameter which read the amendment parameter to the candidate for photography corresponding to group Mika et al. of the amendment parameter corresponding to each the name for photography memorized by the flash ROM 41, and the selected frame, and read the amendment parameter of the criterion already set up in RAM42 only to the object domain. In addition, it is still the amendment parameter of the above-mentioned criterion [fields / other than the object domain memorized by RAM42].

[0049]

[Table 2]

[0050] Table 2 is a table showing the example which an amendment parameter constructs. Set to construct and the name for photography does not perform sharpness by the photography image of person unit size and person two or more size. the amendment parameter of Table 2 -- Contrast is [amendment / to weaken / image] very weak in sharpness by the photography image of person smallness. an amendment parameter which performs image amendment which raises saturation for the image amendment

which raises saturation for the image amendment which weakens contrast by the photography image of a crest greatly by the marine photography image greatly, respectively -- it is constructing. In addition, the amendment parameter mentioned to Table 2 is recorded as data expressed with the numeric value in sharpness, contrast, and the predetermined range about saturation in fact, although expressed with language, such as slight it is "weakness", "it being strong", and "raising", respectively. moreover, these amendment parameters -- constructing -- it is an example and each amendment parameter is arbitrary.

[0051] And according to the set-up amendment parameter, the signal-processing section 43 performs amendment of an image after a setup of the above amendment parameter (drawing 8 : step S14). Amendment processing of an image is ended now.

[0052] It returns to explanation of drawing 4 . Next, CPU20 associates mutually the photography image data after the image amendment obtained at step S6, and the specific information file obtained at step S5, and records it on a memory card 100 (drawing 4 : step S7).

[0053] Drawing 9 is drawing showing image file IF and the storage condition of the specific information file SF. As shown in drawing 9 , the specific information file SF which serves as image file IF containing photography image data ID from the name ON for photography to the photography image data ID and the object domain coordinate AC is associated mutually, and is memorized by the memory card 100. Specifically, the link information LI of the address with which the specific information file SF corresponding to the photography image data ID was memorized in addition to photography image data ID is included in image file IF. By referring to this link information LI, the specific information file SF corresponding to specific image file IF and it can be easily read also from the memory card 100 two or more photography image data ID was remembered to be.

[0054] Although preservation to the memory card 100 of the photography image data photoed and photoed by the above procedures is performed, two or more photography image data can be obtained, they can be related with a specific information file, respectively, and it can be made to memorize to a memory card 100 by repeating still such a procedure.

[0055] Although the explanation about actuation and processing of digital camera 1A at the time of photography was completed above, digital camera 1A in the gestalt of this operation can read the photography image data memorized by the memory card 100 after photography, and can be performing image amendment processing for the second time and template composition processing. Hereafter, these processings are explained.

[0056] First, the image amendment processing after photography is explained. Drawing 10 is a flow chart which shows the procedure in the case of performing image amendment processing after photography.

[0057] First, photography image data, the name for photography, and an object domain coordinate are read into RAM42 from the specific information file by which linking was carried out to the image file and it CPU20 is remembered to be by the memory card 100 (drawing 10 : step S21).

[0058] Next, according to assignment of a user, image amendment is performed to photography image data (drawing 10 : step S22). This processing is the same as processing of step S6 of drawing 4 almost. That is, the signal-processing section 43

performs image amendment processing of drawing 8 on the basis of control of CPU20. However, it is only that performing finer image amendment using the amendment parameter with which the name for photography and object domain coordinate which are used in that case differ from each other for every extract field they are [extract] that it is a thing in the specific information file which linking was carried out to the target image file, and was memorized in the memory card 100 as step S21 showed, and the subregion for photography differs from step S6 of drawing 8 .

[0059]

[Table 3]

[0060] Table 3 is a table showing the example which the amendment parameter for every extract field constructs. As shown in Table 3, the amendment parameter special to a part characteristic of the candidate for photography is set up. When the candidates for photography are specifically person unit size and person two or more size, sharpness processing is not performed into the beige part of the person in an object domain, but the amendment parameter which strengthens sharpness is set to the red part which is equivalent to a person's opening about an amendment parameter which weakens contrast at the part which is equivalent to a person's eyes about an amendment parameter which raises saturation greatly, respectively. Moreover, an amendment parameter which raises [as opposed to / when the candidates for photography are person unit smallness and person two or more smallness / the part of the skin of the person in an object domain] saturation greatly to the blue part in an object domain to the part green when the candidate for photography is a crest in an object domain, respectively when the candidate for photography is the sea is set up.

[0061] Different image amendment for every extract field is performed using such an amendment parameter. However, except the part of the eye in person unit size and person two or more size, the color difference or a hue can use the well-known approach of distinguishing and extracting by whether it is within the limits of predetermined, and, thereby, is carrying out automatic extracting of the extract of each extract field by this digital camera 1A. That is, if the color difference or the hue of each pixel in an object domain reads the color component of each description part and it has it within the limits of the predetermined color difference or a hue, the pixel will be the approach said supposing it presupposed that it is contained to an extract field, otherwise, was not contained to an extract field. Moreover, about the part of the eye in person unit size and person two or more size, it extracts by the following approaches. That is, in this digital camera 1A, the flash ROM 41 is beforehand equipped with the image of an average eye, and pattern matching with the image of that average eye extracts [near the outline

location of the eye in the photography image for which it asked by relative physical relationship with the location of opening extracted as mentioned above independently] with it. In addition, this pattern matching can use a well-known approach.

[0062] Finally, CPU20 carries out linking of the image file containing the image data after the image amendment obtained at step S22 to a specific information file like the image file containing the photography image data at the time of the above-mentioned photography, and writes it in a memory card 100 (drawing 10 : step S23). Above, the image amendment processing after photography is completed.

[0063] Below, template composition processing is explained. Digital camera 1A of the gestalt of this operation can be compounding the template image which is a predetermined image for decorating with the circumference part of an image to the photoed image.

[0064] Drawing 11 is drawing showing the example of a template, and it is drawing in which (a) shows the template T1 of a photograph frame, and (b) shows the template T2 of a heart mold. In drawing 11 (a) and (b), synthetic processing which inserts in the fitting field I1 and the fitting field I2 the image in the object domain in the image read, respectively is performed.

[0065] Drawing 12 is a flow chart which shows the synthetic procedure of a template.

[0066] First, CPU20 reads the data of the name for photography included in the image file and specific information file which were chosen from the memory card 100, and an object domain coordinate (drawing 12 : step S31). More, in the selection screen (illustration abbreviation) of photography image data where the user was displayed on the display 17, and the screen on which the list of the photography image data memorized by the detail at the memory card 100 was displayed, scroll buttons 14 and 15 and the definite carbon button 13 are operated, and, specifically, any one of them is chosen. Then, the specific information file corresponding to the image file and it containing the photography image data chosen among the image files memorized in the memory card 100 is read, and the photography image data, the name for photography, and an object domain coordinate are stored in RAM42.

[0067] Next, CPU20 reads a synthetic candidate's template image chosen from the flash ROM 41 (drawing 12 : step S32). In the selection screen (illustration abbreviation) of a template where the user was displayed on the display 17, and the screen on which the list of templates more usable in a detail was displayed, scroll buttons 14 and 15 and the definite carbon button 13 are operated, and, specifically, any one of them is chosen. Then, the template image data chosen among two or more templates memorized by the flash ROM 41 is read, and it is stored in RAM42.

[0068] The image data in a matched-pairs elephant field is extracted from the photography image data from which the signal-processing section 43 was read also as that of the control of CPU20 to the next to it (drawing 12 : step S33).

[0069] Next, the image data of the object domain which the signal-processing section 43 extracted is compounded with a template image (drawing 12 : step S34). The profile information whose CPU20 is vector data which specifies the profile of the fitting field in a synthetic candidate's template image is specifically read, and it sends to the signal-processing section 43. Then, the signal-processing section 43 applies the profile into the object domain of the selected photography image data, and extracts the image data in the profile as extract image data. And the photography image data by which the template

image was compounded is obtained by inserting the extract image data extracted into the fitting field part of the template image data of the synthetic candidate to whom the signal-processing section 43 has been sent from CPU20.

[0070] Finally, CPU20 writes in a memory card 100, carrying out linking of the image file containing the photography image data after the obtained composition to a specific information file like the image file at the time of the above-mentioned photography (drawing 12 : step S35).

[0071] Although template image composition processing is completed above, it can also carry out by repeating these processings if needed.

[0072] As explained above, according to the gestalt of the 1st operation, a selection input is carried out, using the frame of either of two or more frames as a selection frame.

Display the selection frame and monitor image in piles, and the photography image data equivalent to the monitor image is obtained. The specific information file which is a file of the information for pinpointing the class and object domain for photography corresponding to a selection frame In order to carry out linking to the image file containing photography image data and to record on the memory card 100 as a predetermined candidate for record, After being recorded, by reading an image file and the specific information file by which linking was carried out to it, the object domain for photography in photography image data can be pinpointed, and an image processing can be performed by easy actuation.

[0073] Moreover, since it is not necessary to have separately an assignment input means for specifying the object domain for photography while actuation becomes simple, when a user does not need to specify the object domain for photography apart from selection of a frame, a manufacturing cost can be held down and it can consider as cheap equipment.

[0074] Moreover, in the frame selection screen as a frame selection means, since frame selection is performed by choosing one of keywords from among the keywords corresponding to each of two or more frames, by the keyword, each of two or more frames can be grasped easily, and a desired frame can be chosen easily.

[0075] Moreover, in order to associate mutually a specific information file including the name for photography, and an object domain coordinate, and the image file containing photography image data and to record on a memory card 100, in case an image processing is performed to the photography image data read after record, it can read without a user specifying the name for photography and object domain coordinate corresponding to photography image data, and actuation becomes simple more.

[0076] Moreover, without a user specifying the object domain for photography in photography image data, referring to a specific information file, in order to perform image amendment of photography image data, image amendment can be performed to an object domain and image amendment can be performed by simple actuation.

[0077] Moreover, without a user specifying the object domain for photography in photography image data, in order to read a template and to compound to photography image data, referring to a specific information file, a template can be compounded and template composition can be performed by simple actuation.

[0078] <Gestalt of 2. 2nd operation> drawing 13 is the block diagram showing the configuration of the image processing system 2 which is the gestalt of the 2nd operation. It is the system equipped with the almost same digital camera 1B and personal computer (only henceforth "a computer 200") as the gestalt of the 1st operation with the gestalt of

the 2nd operation.

[0079] Moreover, the computer 200 in this image processing system 2 is equipped with the actuation input sections 215, such as a display 213, and a keyboard, a mouse, and the memory card R/W section 217 for writing a memory card 100 further as a peripheral device while it equips the interior with the communication link interfaces (I/F) 211, such as the disk drive 209 and serial port which write CPU201, a hard disk 203, RAM205 and ROM207 and a floppy disk, CD-ROM, etc., and a USB port.

[0080] In addition, the control program of each processing shown in the following depended on CPU also in a computer 200 can be performing update for install, functional enhancement, etc. using the disks 300 for a setup, such as CD-ROM as a record medium in this invention, and a magnetic disk. The update program for updating the updated control program which should be installed after uninstalling the control program for installing first and the control program already installed on the hard disk, and the already installed control program is recorded on the disk 300 for a setup, and, specifically, these control programs and an update program can also be read and installed on it from the disk 300 for a setup.

[0081] Moreover, the socket which is not illustrated is prepared in digital camera 1B in this image processing system 2, and data, such as an image file and a specific information file, can be transmitted and received by connecting to that socket the telecommunication cable 219 connected to communication link I/F211 by the side of a computer 200.

[0082] Moreover, the processing by digital camera 1B in the image processing system 2 of the gestalt of this operation is almost the same as the processing shown by drawing 4 . However, in this digital camera 1B, neither image amendment processing nor image composition processing can be performed to the photography image data after recording on a memory card 100. Instead, the computer 200 can be performing image amendment processing and image composition processing. The memory card R/W section 217 can be equipped with the memory card 100 on which they were specifically recorded in the specific information file in which linking was carried out to an image file and its image file by digital camera 1B like the gestalt of the 1st operation, and it can be read, or can be read in digital camera 1B equipped with such a memory card 100 through the telecommunication cable 219. Therefore, the almost same image amendment processing as a flow chart and image composition processing of drawing 10 and drawing 12 can be performed like the gestalt of the 1st operation using the name for photography and object domain coordinate corresponding to the photography image data and it which were done so and read. In addition, since the photography image data which a computer 200 reads is image data photoed by digital camera 1B, though natural in the object domain in the image data, the image data for photography is contained.

[0083] However, in the image amendment processing in a computer, the amendment parameter to an object domain is changed manually, or also having the mode in which an extract field is extracted manually differ. The part which the read whole photography image is specifically displayed [part] on the display 213 in the setting screen of an amendment parameter, among those wants to change an amendment parameter is specified by the actuation input section 215. Then, the list screen of amendment items, such as sharpness to the specified field, contrast, and saturation, was displayed, it could choose any of them they were by actuation of the actuation input section, the input screen of the parameter of the amendment item was displayed following it, and the amendment

parameter can be set up in the screen.

[0084] Moreover, in the setting screen of an extract field, it is in the condition that the object domain of the read photography image data was displayed on the display 213, and can set up by specifying the field which a user wants to make into the extract field of them by actuation of the actuation input section 215. And the setting screen of the same amendment parameter as the above is displayed to the extract field specified following assignment of such an extract field, and an amendment parameter can be set up to the extract field.

[0085] And according to the amendment parameter set up as mentioned above, image amendment is performed automatically.

[0086] As explained above, while an image processing system 2 is equipped with digital camera 1B as digital image pick-up equipment according to the gestalt of the 2nd operation The memory card R/W section 217 or communication link I/F211 as a read-out means which reads an image file and a specific information file from the memory card 100 which is a predetermined candidate for record, In order to have the computer 200 as an image processing system which has CPU201 as an amendment means to perform image amendment of photography image data based on the name for photography and object domain of a specific information file, Without a user specifying the object domain for photography, to the object domain of the photography image data photoed by digital camera 1B, by computer, image amendment can be performed and actuation becomes simple.

[0087] Moreover, the hard disk 203 as a template storage means by which the computer 200 as an image processing system memorizes a template, The memory card R/W section 217 or communication link I/F211 as a read-out means which reads an image file and a specific information file from the memory card 100 as a predetermined candidate for record, Since it has CPU201 as a template composition means to read a template from a hard disk 203 based on the name for photography and object domain of a specific information file, and to compound to photography image data, Without a user specifying the object domain for photography, to the object domain of the photography image data photoed by digital camera 1B, by computer 200, a template can be compounded and actuation becomes simple.

[0088] Although digital image pick-up equipment, the image processing system equipped with it, the image processing system, the digital image pick-up approach, and the example of a record medium were shown in the gestalt of the <3. modification> above-mentioned implementation, this invention is not limited to this.

[0089] For example, although it shall carry out with the gestalt of the above-mentioned implementation by choosing any of the lists of keywords of the selection input of a frame they are, it is good also as what chooses the frame corresponding to it by choosing either of the lists of the icons showing each candidate for photography.

[0090] Moreover, although an image file and a specific information file shall be associated mutually and it shall memorize to a memory card 100 in the digital camera in the gestalt of the above-mentioned implementation, it is good also as what is recorded on a flash ROM 41 as a predetermined candidate for record.

[0091] Moreover, although it asks for the name for photography and object domain corresponding to a keyword from a frame table, and shall relate with an image file and shall record by considering them as a specific information file with the gestalt of the

above-mentioned implementation, in case only the keyword is recorded on the specific information file and image amendment processing and template composition processing are performed, it is good also as what asks for the name for photography and object domain corresponding to a keyword with reference to a frame table.

[0092] Moreover, although only image amendment processing shall be performed with the gestalt of the above-mentioned implementation at the time of photography, it is good also as what also performs template composition at the time of photography.

[0093] Furthermore, although the amendment parameter of the criterion over the whole image shall be automatically initialized with the gestalt of the above-mentioned implementation, this initial setting is also good also as what a user can set up by the actuation input section with the setting screen [as opposed to a whole image in a user] of an amendment parameter.

[0094]

[Effect of the Invention] As explained above, according to invention of claim 1, claim 10, and claim 11 A selection input is carried out using the frame of either of two or more frames as a selection frame. The selection frame and the monitor image which is a photography candidate's image are displayed in piles. The specific information which is the information for obtaining the photography image data equivalent to the monitor image, and pinpointing the class for [corresponding to a selection frame] photography, and the object domain which is an ideal field in a selection frame, Since said photography image data is associated mutually and it records on the predetermined candidate for record, after being recorded, by reading photography image data and specific information, the object domain for photography in photography image data can be pinpointed, and an image processing can be performed easily. Moreover, in invention of claim 1, since it is not necessary to have separately an assignment input means for specifying the object domain for photography while actuation becomes simple, when a user does not need to specify the object domain for photography apart from selection of a frame, a manufacturing cost can be held down and it can consider as cheap equipment.

[0095] Moreover, since a frame selection means is what performs frame selection by choosing one of keywords from among the keywords corresponding to each of two or more frames especially according to invention of claim 2, by the keyword, each of two or more frames can be grasped easily, and a desired frame can be chosen easily.

[0096] Moreover, in order especially according to invention of claim 3 to associate mutually the name for photography and an object domain coordinate, and photography image data and to record on the predetermined candidate for record, in case an image processing is performed to the photography image data read after record, it can read without a user specifying the name for photography and object domain coordinate corresponding to photography image data, and actuation becomes simple more.

[0097] Moreover, without a user specifying the object domain for photography in photography image data, in order to have the amendment means which amends photography image data especially according to invention of claim 4, referring to specific information, it can amend to an object domain and can amend by simple actuation.

[0098] Moreover, especially according to invention of claim 5, referring to specific information, a template is read from a template storage means, without a user specifying the object domain for photography in photography image data, in order to have a template composition means to compound to photography image data, a template can be

compounded and a template can be compounded by simple actuation.

[0099] According to invention of claim 6 and claim 7, moreover, digital image pick-up equipment according to claim 1 to 3, In order to have the computer which has the read-out means which reads photography image data and specific information, and the amendment means which amends photography image data based on specific information from the predetermined candidate for record, Without a user specifying the object domain for photography, a computer can amend to the object domain of the photography image data photoed with the digital camera, and actuation becomes simple.

[0100] Especially according to invention of claim 7, moreover, digital image pick-up equipment according to claim 1 to 4, A template storage means to memorize a template, and the read-out means which reads photography image data and specific information from the predetermined candidate for record, In order to have the computer which has a template composition means to read a template from a template storage means based on specific information, and to compound to photography image data, Without a user specifying the object domain for photography, to the object domain of the photography image data photoed with the digital camera, by computer, a template can be compounded and actuation becomes simple.

[0101] Moreover, the digital image pick-up equipment which was connected possible [the record medium which can be detached and attached freely, or a communication link] according to invention of claim 8 to photography image data, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data] photography for photography was photoed, Without a user specifying the object domain for photography, in order to have the amendment means which amends photography image data based on specific information, it can amend to the object domain of the photography image data read from a record medium or digital image pick-up equipment, and actuation becomes simple.

[0102] Moreover, the digital image pick-up equipment which was connected possible [the record medium which can be detached and attached freely, or a communication link] according to invention of claim 9 to photography image data, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data] photography for photography was photoed, In order to have a template composition means to read a template from a template storage means and to compound to photography image data, based on specific information, Without a user specifying the object domain for photography, a template can be compounded to the photography image data read from a record medium or digital image pick-up equipment, and actuation becomes simple.

[0103] Moreover, since the program which realizes the function of each means of claim 8 by computer is recorded according to invention of claim 12, the same effectiveness as invention of claim 8 is done so by reading such a program by computer and performing it.

[0104] Furthermore, since the program which realizes the function of each means of claim 9 by computer is recorded according to invention of claim 13, the same effectiveness as invention of claim 9 is done so by reading such a program by computer and performing it.

TECHNICAL FIELD

[Field of the Invention] This invention relates to the digital image pick-up equipment which obtains the photography image data which is digital data of the photography image containing the candidate for photography, the image processing system equipped with it, an image processing system, the digital image pick-up approach, and a record medium.

PRIOR ART

[Description of the Prior Art] In recent years, the image data which many cameras which can perform image amendment are offered, among those was photoed is memorized for [predetermined] storage, and the technique of JP,11-136568,A is known as a camera which can perform various image amendment processings to the photography image data memorized at the time of a next print and playback. An internal memory or external memory is made to memorize the image data obtained by a user's specifying the main photographic subject and performing an automatic focus and automatic exposure based on that information at the time of photography with this technique. In that case, the positional information of the main photographic subject which the photography person inputted with the touch panel with image data is also made to memorize, and brightness amendment, image quality amendment, etc. of the main photographic subject circumference are performed using the positional information of the main photographic subject at the time of a next print and playback.

EFFECT OF THE INVENTION

[Effect of the Invention] As explained above, according to invention of claim 1, claim 10, and claim 11, let the frame of either of two or more frames be a selection frame. Carry out a selection input and the selection frame and the monitor image which is a photography candidate's image are displayed in piles. The specific information which is the information for obtaining the photography image data equivalent to the monitor image, and pinpointing the class for [corresponding to a selection frame] photography, and the object domain which is an ideal field in a selection frame, Since said photography image data is associated mutually and it records on the predetermined candidate for record, after being recorded, by reading photography image data and specific information, the object domain for photography in photography image data can be pinpointed, and an image processing can be performed easily. Moreover, in invention of claim 1, since it is not necessary to have separately an assignment input means for specifying the object domain for photography while actuation becomes simple, when a user does not need to specify the object domain for photography apart from selection of a frame, a manufacturing cost can be held down and it can consider as cheap equipment. [0095] Moreover, since a frame selection means is what performs frame selection by choosing one of keywords from among the keywords corresponding to each of two or more frames especially according to invention of claim 2, by the keyword, each of two or more frames can be grasped easily, and a desired frame can be chosen easily. [0096] Moreover, in order especially according to invention of claim 3 to associate mutually the name for photography and an object domain coordinate, and photography

image data and to record on the predetermined candidate for record, in case an image processing is performed to the photography image data read after record, it can read without a user specifying the name for photography and object domain coordinate corresponding to photography image data, and actuation becomes simple more.

[0097] Moreover, without a user specifying the object domain for photography in photography image data, in order to have the amendment means which amends photography image data especially according to invention of claim 4, referring to specific information, it can amend to an object domain and can amend by simple actuation.

[0098] Moreover, especially according to invention of claim 5, referring to specific information, a template is read from a template storage means, without a user specifying the object domain for photography in photography image data, in order to have a template composition means to compound to photography image data, a template can be compounded and a template can be compounded by simple actuation.

[0099] Moreover, according to invention of claim 6 and claim 7, it is digital image pick-up equipment according to claim 1 to 3, Without a user specifying the object domain for photography, in order to have the computer which has the read-out means which reads photography image data and specific information, and the amendment means which amends photography image data based on specific information from the predetermined candidate for record, a computer can amend to the object domain of the photography image data photoed with the digital camera, and actuation becomes simple.

[0100] Moreover, especially according to invention of claim 7, it is digital image pick-up equipment according to claim 1 to 4, A template storage means to memorize a template, and the read-out means which reads photography image data and specific information from the predetermined candidate for record, In order to have the computer which has a template composition means to read a template from a template storage means based on specific information, and to compound to photography image data, Without a user specifying the object domain for photography, to the object domain of the photography image data photoed with the digital camera, by computer, a template can be compounded and actuation becomes simple.

[0101] Moreover, the digital image pick-up equipment which was connected possible [the record medium which can be detached and attached freely, or a communication link] according to invention of claim 8 to photography image data, It can amend to the object domain of the photography image data which read from a record medium or digital image pick-up equipment, and actuation becomes simple, without a user specifying the object domain for photography, in order to have the read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data] photography for photography was photoed, and the amendment means which amend photography image data based on specific information.

[0102] Moreover, the digital image pick-up equipment which was connected possible [the record medium which can be detached and attached freely, or a communication link] according to invention of claim 9 to photography image data, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data] photography for photography was photoed, In order to have a template composition means to read a template from a template storage means and to compound to photography

image data, based on specific information, Without a user specifying the object domain for photography, a template can be compounded to the photography image data read from a record medium or digital image pick-up equipment, and actuation becomes simple.

[0103] Moreover, since the program which realizes the function of each means of claim 8 by computer is recorded according to invention of claim 12, the same effectiveness as invention of claim 8 is done so by reading such a program by computer and performing it.

[0104] Furthermore, since the program which realizes the function of each means of claim 9 by computer is recorded according to invention of claim 13, the same effectiveness as invention of claim 9 is done so by reading such a program by computer and performing it.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, with the above-mentioned conventional technique, when the main photographic subject was what kind of thing, the candidate for photography whether you are a person, whether it is an animal, and whether it is scenery was not found but image processings, such as next image amendment, were performed, the photography person needed to input the candidate for photography separately.

[0004] Moreover, in order to input the candidate for photography in the cases, such as next image amendment, it needed to have input means, such as an input screen for it, and the manufacturing cost was rising.

[0005] This invention has the intention of conquest of the above-mentioned problem in the conventional technique, and aims at offering the cheap digital image pick-up equipment which can perform an image processing easily to the image data read after being recorded, the image processing system equipped with it, an image processing system, the digital image pick-up approach, and a record medium.

MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention of claim 1 It is digital image pick-up equipment which obtains the photography image data which is digital data of the photography image containing the candidate for photography. A frame storage means to memorize the image data of the frame which shows the ideal field which should occupy the candidate for thing photography in a photography image corresponding to each for [two or more] photography, The frame selection means for carrying out a selection input, using the frame of either of said two or more frames as a selection frame, A display means to display in piles said selection frame and the monitor image which is a photography candidate's image, An image pick-up means to obtain the photography image data equivalent to said monitor image displayed on the display means, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography and the object domain which is said ideal field in said selection frame, and said photography image data were associated mutually, and it recorded on the predetermined candidate for record, related with it, and has the record means.

[0007] Moreover, invention of claim 2 is digital image pick-up equipment according to claim 1, and when said frame selection means chooses one of keywords from from among the keywords corresponding to each of two or more of said frames, it performs said frame selection.

[0008] Moreover, invention of claim 3 is digital image pick-up equipment according to claim 1. It is what has an object domain coordinate for pinpointing the name for photography and said object domain for said specific information specifying the class for [said] photography. It has the record means which said related attachment record means associates mutually an information derivation means to search for said name for photography corresponding to said selection frame, and said object domain coordinate, said name for photography and said object domain coordinate, and said photography image data, and records on the predetermined candidate for record.

[0009] Moreover, invention of claim 4 is digital image pick-up equipment according to claim 1 to 3, and it is further equipped with the amendment means which amends said photography image data, referring to said specific information.

[0010] Moreover, invention of claim 5 is digital image pick-up equipment according to claim 1 to 4, and is equipped with a template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography images further, and which was prepared beforehand, and a template composition means to read said template from said template storage means, and to compound to said photography image data, referring to said specific information.

[0011] Moreover, invention of claim 6 is equipped with the computer which has digital image pick-up equipment according to claim 1 to 3, the read-out means which reads said photography image data and said specific information from said predetermined candidate for record, and the photography image amendment means which amends said photography image data based on said specific information.

[0012] Invention of claim 7 Moreover, digital image pick-up equipment according to claim 1 to 4, A template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography

images, and which was prepared beforehand, The read-out means which reads said photography image data and said specific information from said predetermined candidate for record, It has the computer which has a template composition means to read said template from said template storage means based on said specific information, and to compound to said photography image data.

[0013] Moreover, invention of claim 8 is an image processing system which performs an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, It has the read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, and the photography image amendment means which amends said photography image data based on said specific information.

[0014] Moreover, invention of claim 9 is an image processing system which performs an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. A template storage means to memorize the template which is the image which is compounded by photography image data and turns into some photography images, and which was prepared beforehand, The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out means which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, Based on said specific information, it has a template composition means to read said template from said template storage means, and to compound to said photography image data.

[0015] Moreover, invention of claim 10 is the digital image pick-up approach of obtaining the photography image data which is digital data of the photography image containing the candidate for photography. It has the frame which is the image in which the ideal field which should occupy the candidate for photography in a photography image is shown to each for [two or more] photography. The frame selection process which uses the frame of either of two or more frames concerned as a selection frame, and carries out a selection input, The display-process which displays in piles said selection frame and the monitor image which is a photography candidate's image, The image pick-up process which obtains the photography image data equivalent to said monitor image displayed on the display means, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography and the object domain which is said ideal field in said selection frame, and said photography image data were associated mutually, and it recorded on the predetermined candidate for record, related with it, and has the record process.

[0016] Moreover, invention of claim 11 is the record medium which recorded the program for obtaining the photography image data which is digital data of the photography image which contains the candidate for photography with digital image pick-up equipment. It has the frame which is the image in which the ideal field which

should occupy the candidate for photography in a photography image is shown to each for [two or more] photography. The frame optional feature which uses the frame of either of two or more frames concerned as a selection frame, and carries out a selection input, The image pick-up function to obtain the photography image data which displays in piles said selection frame and the monitor image which is a photography candidate's image on a display means, and is equivalent to said monitor image, The specific information which is the information for pinpointing the class for [corresponding to said selection frame] photography, and the object domain which is said ideal field in said selection frame, The program which associates said photography image data mutually and is recorded on the predetermined candidate for record and which it relates [program] and realizes a record function is recorded.

[0017] Moreover, invention of claim 12 is the record medium which recorded the program for a computer to perform an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out function which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, The program which realizes the amendment function which amends said photography image data based on said specific information is recorded.

[0018] Furthermore, invention of claim 13 is the record medium which recorded the program for a computer to perform an image processing to the photography image data which is digital data of the photography image containing the candidate for photography. The digital image pick-up equipment connected possible [the record medium which can be detached and attached freely, or a communication link] to photography image data, The read-out function which reads the specific information which is the information for pinpointing the object domain which is a field in the image with which the candidate for [in the photography image data concerned] photography concerned for photography was photoed, Based on said specific information, the program which realizes the template composition function which compounds the template which is the image which is compounded by said photography image data and turns into some photography images, and which was prepared beforehand to said photography image data is recorded.

[0019]

[Embodiment of the Invention] Hereafter, it explains, referring to a drawing about the gestalt of implementation of this invention.

[0020] <1.< [gestalt / of the 1st operation / >] <1-1. whole configuration >> drawing 1 and drawing 2 are the perspective views showing the external configuration of digital camera 1A (1B) concerning the gestalt of operation of this invention, drawing 1 is a perspective view from a transverse-plane side, and drawing 2 is a perspective view from a tooth-back side. Hereafter, with reference to drawing 1 and drawing 2 , a whole digital camera 1A (1B) configuration is explained.

[0021] Digital camera 1A (1B) has structure divided roughly into the image pick-up section 3, and the abbreviation rectangular parallelepiped-like body 10 of a camera.

[0022] The image pick-up section 3 is equipped with a taking lens 31, image formation optical system (illustration abbreviation), and an individual image sensor (illustration

abbreviation), carries out image formation of the light which carries out incidence from a taking lens 31 to an individual image sensor according to image formation optical system, and obtains the photography image data as digital data with an individual image sensor.

[0023] In the transverse-plane upper part of the body 10 of a camera, light is emitted based on control of CPU mentioned later, and the flash plate 5 which illuminates a photographic subject is formed. Moreover, the release carbon button 7 is arranged in the top face of the body 10 of a camera.

[0024] The release carbon button 7 is the operating member from which a shutter will be in a release condition by the photography preparatory state and all push by half-push.

[0025] Moreover, the memory card insertion opening 18 is formed in one side face of the body 10 of a camera. The memory card insertion opening 18 is insertion opening formed in the shape of a slit, is for inserting the external record medium (henceforth a memory card) 100 into the body 10 of a camera, and is equipped with the memory card interface (I/F) later mentioned inside.

[0026] Furthermore, the definite carbon button 13, scroll buttons 14 and 15, and a display 17 are formed in the tooth back of the body 10 of a camera.

[0027] Where the image of the frame explained in full detail to the monitor image which is an image of the photography candidate who the display 17 consisted of LCD etc. and was arrested through the image pick-up section 3 at the time of photography, and the back is piled up, display, or The photography image data which was photoed and was memorized by the memory card (after-mentioned) is displayed, or selection / setting screen for choosing and setting up further various kinds of items (the keyword mentioned later being included) etc. is displayed.

[0028] Scroll buttons 14 and 15 are carbon buttons for a user to choose the thing of arbitration from two or more items in the condition that selection / setting screen is displayed, and whenever the item chosen whenever it pushed the scroll button 14 pushes passing <a thing> on (UP) and a scroll button 15, backward feed (DOWN) of them is carried out. Moreover, scroll buttons 14 and 15 are also access carbon buttons which call the photography image data recorded on the memory card 100 at the time of playback of the already photoed photography image data, and whenever it pushes a scroll button 14 and a record image pushes passing <a thing> on (UP) and a scroll button 15, backward feed (DOWN) of them is carried out.

[0029] Drawing 3 is the block diagram showing the functional configuration of digital camera 1A (1B) concerning the operation gestalt of this invention.

[0030] This digital camera 1A (1B) is equipped with CPU20 as a system controller which controls actuation of the whole digital camera. This CPU20 reads and stores in RAM42 the control program installed in the flash ROM 41 at the time of actuation, and realizes the various functions shown below by performing it.

[0031] The photography image data obtained in the image pick-up section 3 is saved at RAM42 temporarily, is displayed on a display 17, or is further given to the basis of control of the image amendment processing and template composition processing which are mentioned later of CPU20 in the signal-processing section 43. Moreover, a memory card 100 is the record medium which can record the photography image data of two or more sheets which can detach and attach on the body 10 of a camera freely, for example, becomes it from SRAM etc., and the data transfer of it is possible between a memory card 100 and CPU20 through the memory card interface (I/F) 44 established in the

memory card insertion opening 18. Thereby, the photography image data to which image amendment processing later mentioned in the signal-processing section 43 was carried out is recorded on the basis of control of CPU20 by the memory card 100 through memory card I/F44 at the time of photography. Moreover, CPU20 can read the photography image data currently conversely recorded on the memory card 100, and it can also be made to display on a display 17.

[0032] Moreover, the above-mentioned release carbon button 7, the definite carbon button 13, a scroll button 14, and the signal by the control unit 50 of 15 grades are sent to CPU20, and CPU20 recognizes the various actuation by the user. Furthermore, CPU20 will be controlled to carry out release of the shutter 45, if all push [the release carbon button 7].

[0033] In addition, the control program of above-mentioned CPU20 can be updated using the memory card 101 for a setup which is equivalent to the record medium of this invention if needed for that functional enhancement etc. Specifically to the memory card 101 for a setup The control program after the update which should be installed after uninstalling the control program already installed in the flash ROM 41, The update program for updating the already installed control program is recorded, and the memory card insertion opening 18 is equipped with the memory card 101 for a setup. These control programs and an update program can be read and installed from the memory card 101 for a setup.

[0034] < <1-2. actuation and processing >> drawing 4 is a flow chart which shows actuation of digital camera 1A at the time of photography, and control by CPU20. Hereafter, actuation of this digital camera 1A and control by CPU20 are explained, referring to drawing 4 . In addition, unless it specifies especially, control of the following processings is performed by CPU20.

[0035] First, the list of keywords is displayed on a display 17 (drawing 4 : step S1). Drawing 5 is drawing showing the situation of the selection input screen SP of the frame by the keyword. In case a user takes a photograph in digital camera 1A in the gestalt of this operation, the image of a frame in which the ideal field which the candidate for photography should occupy in photographic coverage is shown, and the monitor image which is a photography candidate's image are displayed on a display 17 in piles, and a photograph can be taken in the composition to which the user was easily suitable for the candidate for photography by that cause so that it may become the composition for which it was suitable for every candidate for photography. And first, the list of the keywords corresponding to each frame is expressed to a display 17 as step S1 so that a user may choose the frame. In drawing 5 , the portrait size K1, the portrait smallness K2, portrait two or more size K3, portrait two or more smallness K4, crest K5, and a total of six keywords of the sea K6 are displayed as selections.

[0036]

[Table 1]

[0037] Table 1 is a table showing the name for photography and object domain coordinate corresponding to each keyword. Here, the name for photography is the name of the class for [corresponding to a keyword] photography. As shown in Table 1, the names for photography corresponding to each of the portrait size K1 and the portrait smallness K2 are "person unit size" and "person unit smallness", and the frame corresponding to them is a frame for photoing one person greatly and small, respectively. The names for photography corresponding to portrait two or more size K3 and portrait two or more smallness K4 are "person two or more size" and "person two or more smallness", and the frame corresponding to them is a frame for photoing two or more persons greatly and small, respectively. The names for photography corresponding to crest K5 and the sea K6 are a "crest" and the "sea", and the frame corresponding to them is a frame for photoing the scenery of a crest and the sea, respectively.

[0038] Drawing 6 and drawing 7 are drawings showing the example of a frame, and drawing 6 (a) is drawing in which drawing 6 (b) shows a marine frame, and drawing 7 shows the frame of a crest for the frame of person unit size, respectively. Monitor display MP displayed in the case of photography where a monitor image and a frame are piled up as mentioned above is displayed on a display, and looking at monitor display MP, a user takes a photograph so that the candidate for photography in a monitor image may be settled in a frame. The name for photography like drawing 6 (a) with the frame F1 of the rectangle to person unit size specifically one person's face With the frame (illustration abbreviation) of a long rectangle, to the length to person unit smallness, one person's whole body The upper half of the body of two or more persons who stood in a line horizontally to person two or more size with the frame (illustration abbreviation) of a long rectangle The whole body of two or more persons who stood in a line horizontally to person two or more smallness with the frame (illustration abbreviation) of a long rectangle With the frame F2 of the rectangle to the sea, like drawing 6 (b), by the frame F3 of a rectangle [as opposed to a crest in below a marine horizontal line], a photograph is taken so that below the mountain side of a crest may be settled in a frame like drawing 7 , respectively.

[0039] Moreover, when an object domain coordinate is a coordinate value for pinpointing the field in each frame, i.e., the ideal field which the candidate for photography should occupy, and each point in a photography image (it corresponds to each pixel of a display 17) is expressed with a coordinate (x y), each frame is characteristic -- two coordinates of the top-most vertices of the upper left and the lower right are expressed more in Table 1

and drawing 6 , and drawing 7 as (xi2, yi2) to the detail, respectively (xi1, yi1). Here, i (= 1-6) is a number showing each frame. The size of a frame and the location in a photography image can be uniquely pinpointed with such a coordinate value.

[0040] Next, among the keywords displayed on the display 17, from from, a user chooses any they are and it sets up (drawing 4 : step S2). As shown in drawing 5 , the inverse video of any one of two or more keywords displayed on the display 17 is carried out, and, specifically, this inverse video is gone up and down with scroll buttons 14 and 15 (UP, DOWN). And a user can choose and specify the frame corresponding to the keyword by pushing a definite carbon button, after the desired keyword has been reversed.

[0041] Next, a frame is displayed in the condition of having put on the display 17 with the monitor image (drawing 4 : step S3). The displays in the display 17 at this time are drawing 6 and drawing 7 , and the images and monitor images of a frame overlap and are displayed, respectively.

[0042] Next, if a user pushes the release carbon button 7, CPU20 will carry out release of the shutter 45 (drawing 4: step S4).

[0043] Then, CPU20 reads the name for photography and object domain coordinate corresponding to the selected frame from the frame table memorized by the flash ROM 41 (drawing 4 : step S5). This frame table is a table on which the name for photography and object domain coordinate corresponding to each frame which were shown in Table 1 were matched and memorized.

[0044] Next, CPU20 controls the signal-processing section 43 according to assignment of a user, and performs image amendment processing to photography image data (drawing 4 : step S6).

[0045] Hereafter, image amendment processing is explained. Drawing 8 is a flow chart which shows the procedure of image amendment.

[0046] First, CPU20 reads a standard amendment parameter from a flash ROM 41, and sets it up (drawing 8 : step S11). Specifically it is not concerned with the contents of an image (candidate for photography), but the amendment parameter which is used as standard to the whole image and which was beforehand memorized by the flash ROM 41 is read to RAM42, and it stores in the predetermined address. Here, amendment parameters are data to an image which specified the contents of processing of the image amendment which should be performed, such as modification of sharpness processing, contrast, saturation, etc., etc., and adjustment.

[0047] Next, refer to the data of the name for photography corresponding to the selected frame stored in RAM42, and an object domain coordinate for CPU20 (drawing 8 : step S12).

[0048] Next, CPU20 is changed into the amendment parameter corresponding to the candidate for photography about the inside of an object domain (drawing 8 : step S13). Specifically, CPU20 is changed into the amendment parameter which read the amendment parameter to the candidate for photography corresponding to group Mika et al. of the amendment parameter corresponding to each the name for photography memorized by the flash ROM 41, and the selected frame, and read the amendment parameter of the criterion already set up in RAM42 only to the object domain. In addition, it is still the amendment parameter of the above-mentioned criterion [fields / other than the object domain memorized by RAM42].

[0049]

[Table 2]

[0050] Table 2 is a table showing the example which an amendment parameter constructs. Set to construct and the name for photography does not perform sharpness by the photography image of person unit size and person two or more size. the amendment parameter of Table 2 -- Contrast is [amendment / to weaken / image] very weak in sharpness by the photography image of person smallness. an amendment parameter which performs image amendment which raises saturation for the image amendment which raises saturation for the image amendment which weakens contrast by the photography image of a crest greatly by the marine photography image greatly, respectively -- it is constructing. In addition, the amendment parameter mentioned to Table 2 is recorded as data expressed with the numeric value in sharpness, contrast, and the predetermined range about saturation in fact, although expressed with language, such as slight it is "weakness", "it being strong", and "raising", respectively. moreover, these amendment parameters -- constructing -- it is an example and each amendment parameter is arbitrary.

[0051] And according to the set-up amendment parameter, the signal-processing section 43 performs amendment of an image after a setup of the above amendment parameter (drawing 8 : step S14). Amendment processing of an image is ended now.

[0052] It returns to explanation of drawing 4 . Next, CPU20 associates mutually the photography image data after the image amendment obtained at step S6, and the specific information file obtained at step S5, and records it on a memory card 100 (drawing 4 : step S7).

[0053] Drawing 9 is drawing showing image file IF and the storage condition of the specific information file SF. As shown in drawing 9 , the specific information file SF which serves as image file IF containing photography image data ID from the name ON for photography to the photography image data ID and the object domain coordinate AC is associated mutually, and is memorized by the memory card 100. Specifically, the link information LI of the address with which the specific information file SF corresponding to the photography image data ID was memorized in addition to photography image data ID is included in image file IF. By referring to this link information LI, the specific information file SF corresponding to specific image file IF and it can be easily read also from the memory card 100 two or more photography image data ID was remembered to be.

[0054] Although preservation to the memory card 100 of the photography image data photoed and photoed by the above procedures is performed, two or more photography image data can be obtained, they can be related with a specific information file, respectively, and it can be made to memorize to a memory card 100 by repeating still

such a procedure.

[0055] Although the explanation about actuation and processing of digital camera 1A at the time of photography was completed above, digital camera 1A in the gestalt of this operation can read the photography image data memorized by the memory card 100 after photography, and can be performing image amendment processing for the second time and template composition processing. Hereafter, these processings are explained.

[0056] First, the image amendment processing after photography is explained. Drawing 10 is a flow chart which shows the procedure in the case of performing image amendment processing after photography.

[0057] First, photography image data, the name for photography, and an object domain coordinate are read into RAM42 from the specific information file by which linking was carried out to the image file and it CPU20 is remembered to be by the memory card 100 (drawing 10 : step S21).

[0058] Next, according to assignment of a user, image amendment is performed to photography image data (drawing 10 : step S22). This processing is the same as processing of step S6 of drawing 4 almost. That is, the signal-processing section 43 performs image amendment processing of drawing 8 on the basis of control of CPU20. However, it is only that performing finer image amendment using the amendment parameter with which the name for photography and object domain coordinate which are used in that case differ from each other for every extract field they are [extract] that it is a thing in the specific information file which linking was carried out to the target image file, and was memorized in the memory card 100 as step S21 showed, and the subregion for photography differs from step S6 of drawing 8 .

[0059]

[Table 3]

[0060] Table 3 is a table showing the example which the amendment parameter for every extract field constructs. As shown in Table 3, the amendment parameter special to a part characteristic of the candidate for photography is set up. When the candidates for photography are specifically person unit size and person two or more size, sharpness processing is not performed into the beige part of the person in an object domain, but the amendment parameter which strengthens sharpness is set to the red part which is equivalent to a person's opening about an amendment parameter which weakens contrast at the part which is equivalent to a person's eyes about an amendment parameter which raises saturation greatly, respectively. Moreover, an amendment parameter which raises [as opposed to / when the candidates for photography are person unit smallness and person two or more smallness / the part of the skin of the person in an object domain] saturation

greatly to the blue part in an object domain to the part green when the candidate for photography is a crest in an object domain, respectively when the candidate for photography is the sea is set up.

[0061] Different image amendment for every extract field is performed using such an amendment parameter. However, except the part of the eye in person unit size and person two or more size, the color difference or a hue can use the well-known approach of distinguishing and extracting by whether it is within the limits of predetermined, and, thereby, is carrying out automatic extracting of the extract of each extract field by this digital camera 1A. That is, if the color difference or the hue of each pixel in an object domain reads the color component of each description part and it has it within the limits of the predetermined color difference or a hue, the pixel will be the approach said supposing it presupposed that it is contained to an extract field, otherwise, was not contained to an extract field. Moreover, about the part of the eye in person unit size and person two or more size, it extracts by the following approaches. That is, in this digital camera 1A, the flash ROM 41 is beforehand equipped with the image of an average eye, and pattern matching with the image of that average eye extracts [near the outline location of the eye in the photography image for which it asked by relative physical relationship with the location of opening extracted as mentioned above independently] with it. In addition, this pattern matching can use a well-known approach.

[0062] Finally, CPU20 carries out linking of the image file containing the image data after the image amendment obtained at step S22 to a specific information file like the image file containing the photography image data at the time of the above-mentioned photography, and writes it in a memory card 100 (drawing 10 : step S23). Above, the image amendment processing after photography is completed.

[0063] Below, template composition processing is explained. Digital camera 1A of the gestalt of this operation can be compounding the template image which is a predetermined image for decorating with the circumference part of an image to the photoed image.

[0064] Drawing 11 is drawing showing the example of a template, and it is drawing in which (a) shows the template T1 of a photograph frame, and (b) shows the template T2 of a heart mold. In drawing 11 (a) and (b), synthetic processing which inserts in the fitting field I1 and the fitting field I2 the image in the object domain in the image read, respectively is performed.

[0065] Drawing 12 is a flow chart which shows the synthetic procedure of a template.

[0066] First, CPU20 reads the data of the name for photography included in the image file and specific information file which were chosen from the memory card 100, and an object domain coordinate (drawing 12 : step S31). More, in the selection screen (illustration abbreviation) of photography image data where the user was displayed on the display 17, and the screen on which the list of the photography image data memorized by the detail at the memory card 100 was displayed, scroll buttons 14 and 15 and the definite carbon button 13 are operated, and, specifically, any one of them is chosen. Then, the specific information file corresponding to the image file and it containing the photography image data chosen among the image files memorized in the memory card 100 is read, and the photography image data, the name for photography, and an object domain coordinate are stored in RAM42.

[0067] Next, CPU20 reads a synthetic candidate's template image chosen from the flash

ROM 41 (drawing 12 : step S32). In the selection screen (illustration abbreviation) of a template where the user was displayed on the display 17, and the screen on which the list of templates more usable in a detail was displayed, scroll buttons 14 and 15 and the definite carbon button 13 are operated, and, specifically, any one of them is chosen. Then, the template image data chosen among two or more templates memorized by the flash ROM 41 is read, and it is stored in RAM42.

[0068] The image data in a matched-pairs elephant field is extracted from the photography image data from which the signal-processing section 43 was read also as that of the control of CPU20 to the next to it (drawing 12 : step S33).

[0069] Next, the image data of the object domain which the signal-processing section 43 extracted is compounded with a template image (drawing 12 : step S34). The profile information whose CPU20 is vector data which specifies the profile of the fitting field in a synthetic candidate's template image is specifically read, and it sends to the signal-processing section 43. Then, the signal-processing section 43 applies the profile into the object domain of the selected photography image data, and extracts the image data in the profile as extract image data. And the photography image data by which the template image was compounded is obtained by inserting the extract image data extracted into the fitting field part of the template image data of the synthetic candidate to whom the signal-processing section 43 has been sent from CPU20.

[0070] Finally, CPU20 writes in a memory card 100, carrying out linking of the image file containing the photography image data after the obtained composition to a specific information file like the image file at the time of the above-mentioned photography (drawing 12 : step S35).

[0071] Although template image composition processing is completed above, it can also carry out by repeating these processings if needed.

[0072] As explained above, according to the gestalt of the 1st operation, a selection input is carried out, using the frame of either of two or more frames as a selection frame.

Display the selection frame and monitor image in piles, and the photography image data equivalent to the monitor image is obtained. The specific information file which is a file of the information for pinpointing the class and object domain for photography corresponding to a selection frame In order to carry out linking to the image file containing photography image data and to record on the memory card 100 as a predetermined candidate for record, After being recorded, by reading an image file and the specific information file by which linking was carried out to it, the object domain for photography in photography image data can be pinpointed, and an image processing can be performed by easy actuation.

[0073] Moreover, since it is not necessary to have separately an assignment input means for specifying the object domain for photography while actuation becomes simple, when a user does not need to specify the object domain for photography apart from selection of a frame, a manufacturing cost can be held down and it can consider as cheap equipment.

[0074] Moreover, in the frame selection screen as a frame selection means, since frame selection is performed by choosing one of keywords from among the keywords corresponding to each of two or more frames, by the keyword, each of two or more frames can be grasped easily, and a desired frame can be chosen easily.

[0075] Moreover, in order to associate mutually a specific information file including the name for photography, and an object domain coordinate, and the image file containing

photography image data and to record on a memory card 100, in case an image processing is performed to the photography image data read after record, it can read without a user specifying the name for photography and object domain coordinate corresponding to photography image data, and actuation becomes simple more.

[0076] Moreover, without a user specifying the object domain for photography in photography image data, referring to a specific information file, in order to perform image amendment of photography image data, image amendment can be performed to an object domain and image amendment can be performed by simple actuation.

[0077] Moreover, without a user specifying the object domain for photography in photography image data, in order to read a template and to compound to photography image data, referring to a specific information file, a template can be compounded and template composition can be performed by simple actuation.

[0078] <Gestalt of 2. 2nd operation> drawing 13 is the block diagram showing the configuration of the image processing system 2 which is the gestalt of the 2nd operation. It is the system equipped with the almost same digital camera 1B and personal computer (only henceforth "a computer 200") as the gestalt of the 1st operation with the gestalt of the 2nd operation.

[0079] Moreover, the computer 200 in this image processing system 2 is equipped with the actuation input sections 215, such as a display 213, and a keyboard, a mouse, and the memory card R/W section 217 for writing a memory card 100 further as a peripheral device while it equips the interior with the communication link interfaces (I/F) 211, such as the disk drive 209 and serial port which write CPU201, a hard disk 203, RAM205 and ROM207 and a floppy disk, CD-ROM, etc., and a USB port.

[0080] In addition, the control program of each processing shown in the following depended on CPU also in a computer 200 can be performing update for install, functional enhancement, etc. using the disks 300 for a setup, such as CD-ROM as a record medium in this invention, and a magnetic disk. The update program for updating the updated control program which should be installed after uninstalling the control program for installing first and the control program already installed on the hard disk, and the already installed control program is recorded on the disk 300 for a setup, and, specifically, these control programs and an update program can also be read and installed on it from the disk 300 for a setup.

[0081] Moreover, the socket which is not illustrated is prepared in digital camera 1B in this image processing system 2, and data, such as an image file and a specific information file, can be transmitted and received by connecting to that socket the telecommunication cable 219 connected to communication link I/F211 by the side of a computer 200.

[0082] Moreover, the processing by digital camera 1B in the image processing system 2 of the gestalt of this operation is almost the same as the processing shown by drawing 4. However, in this digital camera 1B, neither image amendment processing nor image composition processing can be performed to the photography image data after recording on a memory card 100. Instead, the computer 200 can be performing image amendment processing and image composition processing. The memory card R/W section 217 can be equipped with the memory card 100 on which they were specifically recorded in the specific information file in which linking was carried out to an image file and its image file by digital camera 1B like the gestalt of the 1st operation, and it can be read, or can be read in digital camera 1B equipped with such a memory card 100 through the

telecommunication cable 219. Therefore, the almost same image amendment processing as a flow chart and image composition processing of drawing 10 and drawing 12 can be performed like the gestalt of the 1st operation using the name for photography and object domain coordinate corresponding to the photography image data and it which were done so and read. In addition, since the photography image data which a computer 200 reads is image data photoed by digital camera 1B, though natural in the object domain in the image data, the image data for photography is contained.

[0083] However, in the image amendment processing in a computer, the amendment parameter to an object domain is changed manually, or also having the mode in which an extract field is extracted manually differ. The part which the read whole photography image is specifically displayed [part] on the display 213 in the setting screen of an amendment parameter, among those wants to change an amendment parameter is specified by the actuation input section 215. Then, the list screen of amendment items, such as sharpness to the specified field, contrast, and saturation, was displayed, it could choose any of them they were by actuation of the actuation input section, the input screen of the parameter of the amendment item was displayed following it, and the amendment parameter can be set up in the screen.

[0084] Moreover, in the setting screen of an extract field, it is in the condition that the object domain of the read photography image data was displayed on the display 213, and can set up by specifying the field which a user wants to make into the extract field of them by actuation of the actuation input section 215. And the setting screen of the same amendment parameter as the above is displayed to the extract field specified following assignment of such an extract field, and an amendment parameter can be set up to the extract field.

[0085] And according to the amendment parameter set up as mentioned above, image amendment is performed automatically.

[0086] As explained above, while an image processing system 2 is equipped with digital camera 1B as digital image pick-up equipment according to the gestalt of the 2nd operation The memory card R/W section 217 or communication link I/F211 as a read-out means which reads an image file and a specific information file from the memory card 100 which is a predetermined candidate for record, In order to have the computer 200 as an image processing system which has CPU201 as an amendment means to perform image amendment of photography image data based on the name for photography and object domain of a specific information file, Without a user specifying the object domain for photography, to the object domain of the photography image data photoed by digital camera 1B, by computer, image amendment can be performed and actuation becomes simple.

[0087] Moreover, the hard disk 203 as a template storage means by which the computer 200 as an image processing system memorizes a template, The memory card R/W section 217 or communication link I/F211 as a read-out means which reads an image file and a specific information file from the memory card 100 as a predetermined candidate for record, Since it has CPU201 as a template composition means to read a template from a hard disk 203 based on the name for photography and object domain of a specific information file, and to compound to photography image data, Without a user specifying the object domain for photography, to the object domain of the photography image data photoed by digital camera 1B, by computer 200, a template can be compounded and

actuation becomes simple.

[0088] Although digital image pick-up equipment, the image processing system equipped with it, the image processing system, the digital image pick-up approach, and the example of a record medium were shown in the gestalt of the <3. modification> above-mentioned implementation, this invention is not limited to this.

[0089] For example, although it shall carry out with the gestalt of the above-mentioned implementation by choosing any of the lists of keywords of the selection input of a frame they are, it is good also as what chooses the frame corresponding to it by choosing either of the lists of the icons showing each candidate for photography.

[0090] Moreover, although an image file and a specific information file shall be associated mutually and it shall memorize to a memory card 100 in the digital camera in the gestalt of the above-mentioned implementation, it is good also as what is recorded on a flash ROM 41 as a predetermined candidate for record.

[0091] Moreover, although it asks for the name for photography and object domain corresponding to a keyword from a frame table, and shall relate with an image file and shall record by considering them as a specific information file with the gestalt of the above-mentioned implementation, in case only the keyword is recorded on the specific information file and image amendment processing and template composition processing are performed, it is good also as what asks for the name for photography and object domain corresponding to a keyword with reference to a frame table.

[0092] Moreover, although only image amendment processing shall be performed with the gestalt of the above-mentioned implementation at the time of photography, it is good also as what also performs template composition at the time of photography.

[0093] Furthermore, although the amendment parameter of the criterion over the whole image shall be automatically initialized with the gestalt of the above-mentioned implementation, this initial setting is also good also as what a user can set up by the actuation input section with the setting screen [as opposed to a whole image in a user] of an amendment parameter.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing the external configuration of digital camera 1A (1B) concerning the gestalt of operation of this invention.

[Drawing 2] It is the perspective view showing the external configuration of digital camera 1A (1B) concerning the gestalt of operation of this invention.

[Drawing 3] It is the block diagram showing the functional configuration of digital camera 1A (1B) concerning the operation gestalt of this invention.

[Drawing 4] It is the flow chart which shows actuation of the digital camera at the time of photography, and control by CPU.

[Drawing 5] It is drawing showing the situation of the selection input screen of the frame by the keyword.

[Drawing 6] It is drawing showing the example of a frame.

[Drawing 7] It is drawing showing the example of a frame.

[Drawing 8] It is the flow chart which shows the amendment procedure of an image.

[Drawing 9] It is drawing showing the storage condition of an image file and a specific information file.

[Drawing 10] It is the flow chart which shows the procedure in the case of performing image amendment processing after photography.

[Drawing 11] It is drawing showing the example of a template.

[Drawing 12] It is the flow chart which shows the synthetic procedure of a template.

[Drawing 13] It is the block diagram showing the configuration of the image processing system which is the gestalt of the 2nd operation.

[Description of Notations]

1A, 1B Digital camera

2 Image Processing System

3 Image Pick-up Section (Image Pick-up Means)

7 Release Carbon Button

13 Definite Carbon Button

14 15 Scroll button

17 Display (it is Frame Selection Means in Display Means, and 13, 14 and 15)

20 CPU (Information Derivation Means)

41 Flash ROM (Frame Storage Means, Template Storage Means)

43 Signal-Processing Section (it is [20] Template Composition Means in Amendment Means and 20)

44 Memory Card I/F (it Relates with 20 and is Record Means in Record Means and 20)

100 Memory Card (Candidate for Record)

101 Memory Card for Setup (Record Medium)

200 Computer

201 CPU (Photography Image Amendment Means, Template Composition Means)

203 Hard Disk (Template Storage Means)

209 Disk Drive (Read-out Means)

211 Communication Link I/F

217 Memory Card R/W Section

219 Telecommunication Cable (it Reads with 211 and is Means)

300 Disk for Setup (Record Medium)

AC Object domain coordinate

F1-F3 Frame

ID Photography image data

IF Image file

K1-K6 Keyword

LI Link information

ON Name for photography

T1, T2 Template

SF Specific information file